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The Wilson Bulletin

Official Organ of the Wilson Ornithological Club

An Illustrated Quarterly Magazine
Devoted to the Study of
Birds in the Field

Edited by Lynds Jones

Nineteen Hundred and Nine

Old Series, Volume XXI New Series, Volume XVI

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California Murre (*Uria troile californica*). Shoulder ledge colony at close range. Carroll Islet.

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JUNE WITH THE BIRDS OF THE WASHINGTON COAST.

LYNDS JONES

Carroll Islet had been the center of attraction from the beginning of our plans, and here we expected to spend at least a full week, weather permitting. Certain it is that a cozier place to make camp and a more favorable place in which to study the ocean birds in their home life it would be difficult to find anywhere. At daybreak, with an orchestral background of gull croakings, there trickled forth from the fringing brush the exquisite song of the Western Winter Wren, and echoing again beneath the canopy of spruce branches there pealed forth the song of that prima donna in feathers, the Sooty Fox Sparrow. Out of the great, hustling, jostling, dissatisfied man-made world into this little Eden!

Second in point of numbers of the birds of Carroll Islet comes

TUFTED PUFFIN (*Lunda cirrhata.*)

The only places where this species was not present and nesting were the rock precipices and the forested area, except, of course, the ledges, which were wholly occupied by Murres and Cormorants. Even the fringe of dense brush contained many nests. It is well known that the typical nesting habit of these birds is to find or make a burrow, usually among the rocks. The most of such burrows observed seemed to have been

cleared of debris by the birds, and some of them had clearly been made by the birds without much, if any natural cavity, to mark the beginning. An occasional burrow was so shallow

Carroll Islet. **Figure 2**

Tufted Puffin (*Lunda cirrhata*). Posing for his picture, at the mouth of the nest burrow.

that the bird or egg could be seen, but most of them extended a number of feet into the ground. In walking over a turf-covered steep slope one needed to be careful not to break

through these burrows and take a headlong tumble. In climbing such a steep slope the mouths of the burrows afford a comfortable foothold. In descending such a slope rapidly you are more than likely to have the leg bearing the most strain bumped just behind the knee by a frightened bird as it rushes headlong from its nest.

Carroll Islet. Figure 3

Tufted Puffin. (*Lunda cirrhata*). About half of the usual numbers. seen here.

One of our pleasant surprises with these birds was the finding of some nests beneath the thickly matted salal bushes, but without the semblance of a burrow. Clearly the birds considered the bushes a sufficient protection from marauding enemies, and were content to simply arrange their nest material upon the ground. The egg in the illustration is in such a nest. If birds reared in such nests could be tagged and so recognized on their return, it would be interesting to note whether they adopted the modified nesting habits of their parents or reverted to the ancestral method of burrowing.

The nest material was such as could be picked up within a few feet of the nest or the mouth of the nest burrow, and was merely arranged into a mat and trodden down in the middle. A single egg is deposited, and there is no evidence that there

is more than one breeding a year. The egg is probably nearly white when freshly laid, but it very soon becomes grimy from contact with the bird's feet and wet plumage. All of the eggs collected showed decided shell markings of purplish after careful washing, some of them being distinctly marked, others faintly so. The character of the markings seems to indicate that the eggs of the immediate ancestors of the Puffins were

Carroll Islet. Figure 4

Tufted Puffin (*Lunda cirrhata*). A few guards brave enough to remain within twenty feet of the camera-man.

strongly marked, and they were therefore probably ledge nesters, as the Murres are still.

While these birds seem to fly readily once they have vaulted out over the ocean, it is clear that their short wings do not suffice to carry them upward directly to their nesting burrows. They get up from the sea rather clumsily and circle about on

rapidly vibrating wings, gradually ascending until on a plane above the nest burrow, when they either circle near it if any disturbance has been the cause of their departure, or drop down upon the mouth of the burrow with a thud. In their

Carroll Islet. Figure 5

Tufted Puffin (*Lunda cirrhata*). Mouths of nest burrows, on a steep slope.

circles near the surface of the island the legs are held stiffly out ready for alighting. Once perched they stand at attention for some time before diving headlong into the burrow. The portrait in figure 2 was taken from the cover of bushes about four feet from a nest burrow on the instant after the bird had turned its head in response to a slight noise made for the pur-

pose, and less than two seconds after it had plumped down upon the mouth of the burrow. The next second he was gone, frightened by the snapping of the shutter. He circled back to the vicinity of the nest six times before finally venturing to re-

Carroll Islet. Figure 6

Tufted Puffin (*Lunda cirrhata*). A nest and egg in a brush-nest.

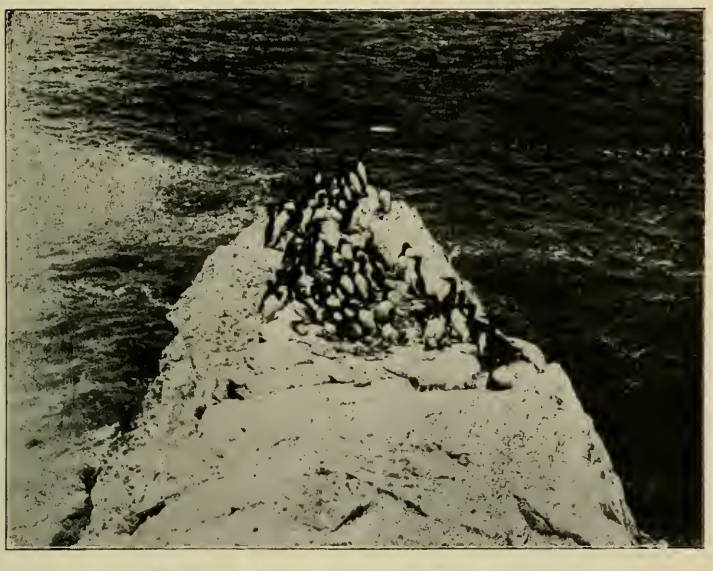
main long enough for a shot, and had caused me to wait nearly an hour in a cramped position and be the target of a family of scolding Wrens. But the picture is worth it.

The Puffins seemed to be wholly silent as to voice. The startled bird made no exclamation even when leaving a nest burrow which one was probing into.

CALIFORNIA MURRE (*Uria troile californica.*)

Although probably fewer in numbers than the Puffins, the Murres were not less interesting. As before noted, they occupied two ledges, one jutting out landward as a narrow, naked shoulder some seventy-five feet from the water, the other a bordering ledge beneath the overhanging ocean side of the

Carroll Islet. Figure 7



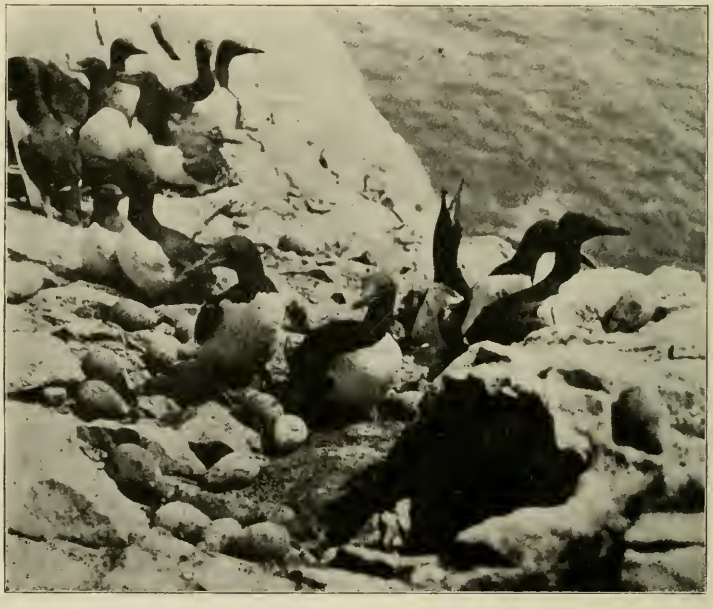
California Murre (*Uria troile californica*). The outer part of the shoulder ledge colony.

island. The latter was the larger colony and the more difficult of approach, and consequently was little studied. Some half-dozen birds were sitting upon their eggs between the nests of the White-crested Cormorant colony at the base of the cliff, and one sitting bird was discovered, with its egg, in a small cave half way up the Puffin slope. The accompanying pictures will convey a better impression of the smaller of these colonies than any word picture. However, it must be understood that the picture shows less than a third of the birds which were crowded upon this shoulder of rock when the birds

were undisturbed. At our approach, even when many yards distant, they spilled off the sides of the rocks like a cataract.

In figure 9 one bird may be seen about to assume the incubating posture. The egg is resting upon the ends of the toes. The bird will straighten up, fluff the feathers of the underparts

Carroll Islet. Figure 8



California Murre (*Uria troile californica*).
Birds at three feet.

out, then settle down with the egg completely hidden beneath the feathers and its ends resting securely upon the bird's feet. If the bird is so much startled that it takes wing suddenly the egg is set to rolling and may roll off from the rock into the ocean.

In figure 8 one bird may be seen with its mouth stretched wide open and the bill pointing straight up. The bird is uttering a curious call, to which none of the other birds give the least attention. The call seems to be a purely personal matter, and may be variously interpreted.

The eggs are beautiful when freshly laid, but very soon become begrimed beyond description and recognition. The shades of ground color range from nearly pure white to a deep sea green, and the markings vary from scattering to dense,

Carroll Islet. Figure 9

California Murre (*Uria troile californica*). A chick almost hatched in the center of the picture. It is backing out of the large end of the egg, where the shell has been broken off.

and from spots and blotches to irregular lines. The color of the markings range from a nearly black brown to reddish. Of course the pigment is melanin and the dark markings are thick masses of it, while the light markings represent a thin film of it. The eggs are enormous for the size of the bird, and represent the sole reproductive effort for the year.

In figure 9 one black downy chick one-day old may be seen,

and another chick vigorously struggling to free himself from the shell, the large end of which he has forced off. His back was toward the camera.

No nest material is used, and, of course, none is needed. When the bird must leave the egg to secure food it is left on the bare rock, and at the mercy of wind and flying enemy. But eggs several days old are so befouled with grime and lime that they are not easily distinguished from the lime-covered rock upon which they rest. One wonders if even the fall rains and winter storms *could* wash those rocks clean! The stench was "quite some."

For all of the crowding, or because of it, there was little quarreling among the Murres, but there seemed to be considerable conversation at all times. They were packed so tightly together that late arriving birds found difficulty in wedging down to reach the rock surface. In approaching the rock they usually flew somewhat higher than its surface and fluttered down, landing heavily.

BAIRD CORMORANT (*Phalacrocorax pelagicus resplendens.*)

The nesting places of this Cormorant were small ledges or grottoes in precipices. Therefore the most of them were nesting on the ocean side of the island, and at various elevations. Nests were usually placed not nearer together than several feet, possibly because of the character of the rock face. The birds were uniformly more timid than the White-crested. Their single bark-like cry was not often heard, even when they were disturbed or frightened.

None of the nests examined contained sticks, but were wholly composed of dry grass, with occasionally a few feathers in the lining. All of the nest except the outside was clean, but the outside was characteristically covered with lime, and the rocks below the nest for many feet were white with the same substance. In fact, the nesting places of these birds could be discerned at considerable distances by the white streaking of the dark gray rocks. All along the coast, when we approached the rocky shores evidences of these birds were scattered along the rocks.

The two white patches each side of the rump make a strong and unmistakable field mark, as these birds hurry away from their nests or fly about. They seem to be a little smaller and

Carroll Islet. Figure 10

Baird Cormorant (*Phalacrocorax pelagicus resplendens*).
A colony of nests.

rather more slender than the other two species inhabiting this region. The eggs are noticeably smaller and more slender, having a strong tendency to be nearly equal ended.

Carroll Islet. Figure 11

Baird Cormorant (*Phalacrocorax pelagicus resplendens*). Nest and eggs. A detail from the preceding figure.

BRANDT CORMORANT (*Phalacrocorax penicillatus.*)

Because these birds confined their nestings wholly to the "Pinnacle," an outlying rock some 200 feet from Carroll seaward, too steep for scaling, we could study them only with binoculars. Their nests seemed to be confined largely to the top of this rock, and seemed to be made of grass, much like the nests of the last species, but placed on nearly flat surfaces.

The nests were closely grouped. Little could be learned of their habits.

The other breeding birds of Carroll Islet, besides Cassin Auklet, Kaeding Petrel, and Black Oystercatcher, already reported upon in connection with other islands, were: Peale Falcon (*Falco peregrinus pealei*), one pair and one young able to fly about readily; Rufus Hummingbird (*Selasphorus rufus*) one pair noted; Sooty Fox Sparrow (*Passerella iliaca fuliginosa*), one nest containing four fresh eggs and at least one other pair; Rusty Song Sparrow (*Melospiza melodia morphna*), probably two or more pairs heard singing; Western Winter Wren (*Olbiorchilus hiemalis pacificus*), at least two pairs with their families of young able to fly; and Russet-backed Thrush (*Hylocichla ustulata*), birds heard singing, but the numbers not determined. An American Crossbill and an Audubon Warbler were also noted, but they seemed to be transient visitors. The Northwest Crow and the American Raven made regular excursions to the island for lunch, the latter infrequently.

There is thus seen to be packed into and upon this speck of rock out in the Pacific a wealth of bird life which could be hardly surpassed anywhere, both in numbers of individuals and in species. One longs to revisit a spot of such pleasant memories rather than venture into untried fields.

ALEXANDER WILSON.

V.—The Completion of the American Ornithology.

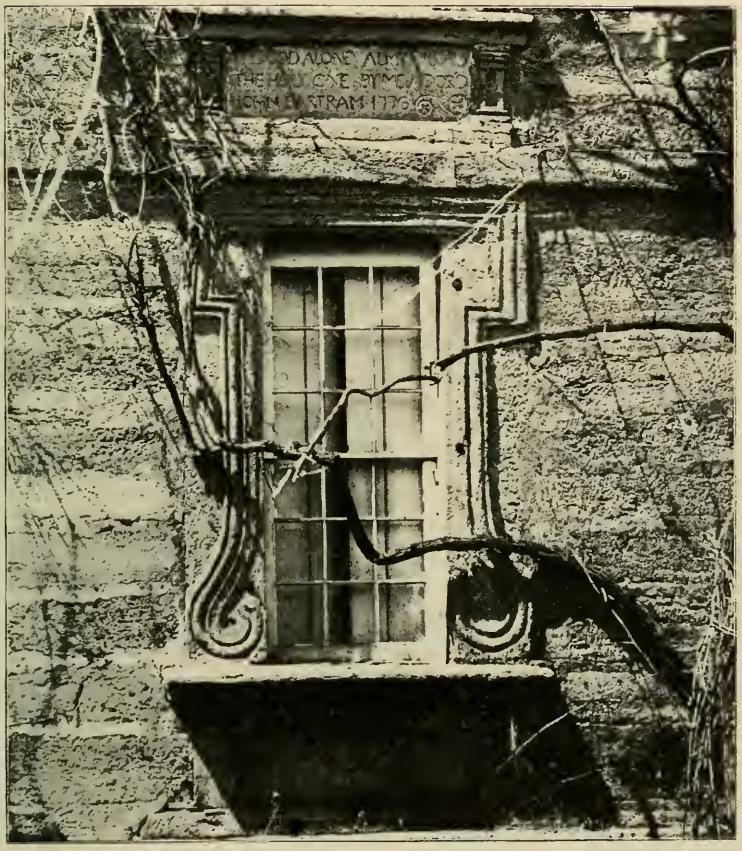
BY FRANK L. BURNS.

Many years after the death of Alexander Wilson, in registering at a hotel near Niagara Falls, Audubon wrote after his name, "Who like Wilson, will ramble, but never, like that great man, die under the lash of a bookseller." This opinion is further emphasized by Miss Malvina Lawson, a daughter of the engraver, in a letter dated from West Chester, February 6, 1879, to Professor S. S. Haldeman, and containing personal recollections of Wilson; in which she bluntly asserts that "to all his other trials was added the fact that killed him — the dishonesty of his publisher."[1] She also writes in part: "When we were children, father often diverged a little when taking us to Bartram's garden to visit the place where his old friend lived and suffered. I do not think there is an inch of ground in that locality that remains the same. . . . I was not seven years old when Wilson died, and my memory of him is in pictures as childhood's memory always is. I remember him offering me a Baltimore yellow bird he had shot in the woods, when coming to our house in the country, and my decided refusal to touch it. But I remember perfectly his brilliant eye and hair black as an Indian's, and as straight."

It is beyond doubt that Wilson lived up to both the spirit and letter of his contract, and it is presumed that the publishers were not delinquent, although not even the author appeared to know exactly what their part called for beyond meeting the expenses. Of the senior member of the firm, Dunlap states: "Mr. Bradford was a man of generous disposition and sound judgment. He headed a list of subscribers (Wilson was a contributor also) to raise a fund for Leslie's[2] maintenance during two years in London and canceled his indenture, although it had four years yet to run." It is not at all improbable that Wilson's publishers deserved the highest praise in-

[1] Penn Monthly, 1879, p. 444.

[2] Charles Robert Leslie, who became a great subject painter.



Inscription over Bartram's Study Window.

Taken by Robert S. Redfield April 18th, 1883.

"Sweet flows the Scuylkill's winding tide,
By Bartram's green emblossom'd bow'rs;
Where Nature sports, in all her pride
Of choicest plants, and fruits, and flowers."

A Rural Walk.

stead of censure, for the risk taken in bringing out so expensive a work. An error in judgment might have speedily involved them in ruin. Indeed, Ord is the authority for the statement that they found the expenses burdensome long before the work was completed. It was not the dread of a publisher's wrath that led Wilson to brave the frost and discomforts of a tramp to the Niagara; to risk a passage in a frail boat down the flooded Ohio, despite of the ice, snags and sawyers; or to struggle resolutely onward through the pestilential quagmires of the Mississippi region. He knew that his ambition was laudable and was simply bound to succeed, cost what it might.

In the matter of subscriptions, Ord deprecates the fact that while the little city of New Orleans contributed sixty subscribers in seventeen days, Philadelphia, "of all her literati, her men of benevolence, taste and riches, seventy only, to the period of the author's decease, had the liberality to countenance him by a subscription." Perhaps it has always been characteristic of the "City of Brotherly Love" to depreciate home products, but condemnation in this instance may be softened in consideration of the easy access to the work at the public libraries and that the local market was actually glutted with the projects of talented adventurers. On the whole, Pennsylvania did nobly in furnishing more than one-quarter of the subscriptions, and with New York and Louisiana, over one-half of the total. The South, containing a greater proportion of the leisurely class, gave substantial encouragement freely; and with the two northern states already mentioned, assured the completion of the work. Intellectual New England, according to the subscription list, is accredited with just twenty-four subscriptions! Of the total of four hundred and fifty-nine subscriptions, the greater number were obtained in the few large cities from New York southward.

In a pioneer work of this nature, colored illustrations were deemed not only advisable, but for many reasons considered absolutely indispensable. Had the entire seventy-six plates been engraved by Alexander Lawson instead of the fifty plates bearing his signature, the result would not only have been

greater uniformity, but would have conferred greater honors upon the artist and relieved him of much vexation. George Murry contributed plates 3, 7, 9, 15, and 26; his connection ceased after the third volume. B. Tanner was responsible for plate 32 of the following volume; and another engraver signed himself variously as Warnicke, J. Warnicke, or J. G. Warnicke, on twenty plates in the last five volumes, and occasionally raised his work above mediocrity; his figure of the Ruffed Grouse being his best.

After examining the original drawings of Wilson, Dr. Coues has declared: "One thing is shown very clearly by this set of pictures, and the public does not know it yet. This is the *decided superiority of the originals* in comparison with the published engravings. It has always been supposed, and apparently vouched for by Wilson's own declarations, that the excellence of his plates was largely due to the skill and care of his engraver. This is not so. Without wishing to detract in the least from Mr. Lawson's merit and well-earned fame, I should say Wilson might thank him for nothing remarkable. The plates, in some cases, are 'loud' and garish in comparison with the delicacy of tone and excellence of perspective that the originals show. This is specially notable in the cases of one or two of the plates that represent scenery and grouping, as those of the Ducks. . . . One other thing came forcibly to my mind as I turned these sheets of paper nervously. Very few of them — I remember but one — are dated or signed, or bear MS. witness of what they are. This man, of eager, half-desponding, half-exulting ambition as he was, seemed to have felt some shrinking in modesty from affixing his name to his pictures." Coues further comments: "I was fairly oppressed with the sad story of poverty, even destitution, which these raw sheets of coarse paper told. Some of Wilson's originals are on the fly-leaves of old books, showing binder's marks along one edge. One of the best portraits, that of the Duck Hawk, is on two pieces of paper pasted together. The man was actually too poor to buy paper! Some of the drawings are on both sides of the paper; some show a full picture on one side, and part of a mutilated finished painting on the other.

Some show the rubbing process by which they were transferred. They are in all stages of completeness, from the rudest outlines to the finished painting. Some are left half-dressed, with penciled instructions to the engraver to fill in red ochre here, and yellow ochre there, etc. Wilson sometimes finished the bills and feet in full detail and coloring, leaving much of the plumage blank." [1]

Wilson composed a charming preface for his initial volume, writing in a lighter and happier vein than in those following. It is worth repeating. Few have read it, because the original prefaces have not appeared in the various popular editions: "The whole use of a preface seems to be either to elucidate the nature and origin of the work or to invoke the clemency of the reader. Such observations as have been thought necessary for the former, will be found in the Introduction; extremely solicitous to obtain the latter, I beg leave to relate the following anecdote: In one of my visits to a friend's in the country, I found their youngest son, a fine boy of eight or nine years of age, who usually resides in town for his education, just returning from a ramble through the neighboring woods and fields, where he had collected a large and handsome bunch of wild flowers of a great many different colors; and presenting them to his mother, said, with much animation in his countenance, 'Look, my dear ma, what beautiful flowers I have found growing on our place! Why, all the woods are full of them! red, orange, blue, and 'most every color. O, I can gather you a whole parcel of them, much handsomer than these, all growing in our own woods! Shall I, ma? Shall I go and bring more?' The good woman received the bunch of flowers with a smile of affectionate complacency; and, after admiring for some time the beautiful simplicity of Nature, gave her willing consent; and the little fellow went off, on the wings of ecstasy, to execute his delightful commission.

"The similitude of this little boy's enthusiasm to my own, struck me; and the reader will need no explanations of mine to make the application. Should my country receive with the

[1] Coues, "Behind the Vail." B. N. O. C., Vol. V, 1880, pp. 197-198.

same gracious indulgence the specimens which I here humbly present her; should she express a desire for me to go and bring her more, the highest wishes of my ambition will be gratified; for, in the language of my little friend, our whole woods are full of them! and I can collect hundreds more, much handsomer than these."

It is fortunate for the truthfulness of the text that Wilson took little for granted in the matter of life histories. To illustrate the careful manner in which he labored before making a statement, one or two instances will be sufficient. That the Nighthawk and Whippoorwill were one and the same species, was accepted as a fact by both William Bartram and Dr. B. S. Barton, of Philadelphia, who were undoubtedly the leading American authorities of the period. Wilson desired proof, so he shot thirteen specimens of the former at different times and at different places, nine were found by dissection to be males and four females. Two others were shot as they flushed from their eggs, and found to agree with the four preceding. A Whippoorwill was shot in the evening, while in the act of repeating his usual notes, three others were secured at different times of the day, two of them females, one of them having been sitting on two eggs. Not only the difference in plumage, notes and habits, but the difference in the eggs of the two species, were noted. The result was not only convincing proof for his friend Bartram, but the introduction of a new species in the Whippoorwill.

The learned Barton had asserted that no fact in ornithology was better established than that of the occasional torpidity of the Barn Swallow and Chimney Swift,[1] and he was not alone in his belief. After careful investigations of some years, Wilson pronounced the hibernation of these birds during the winter months a myth, and ridicules the idea under the head of the Barn Swallow: . . . "Yet this little *winged seraph*, if I may so speak, who, in a few days, and at will, can pass from the borders of the arctic regions to the torrid zone, is forced, when winter approaches, to descend to the bottom of lakes, rivers,

[1] Tilloch's Philosophical Magazine, Vol. XXII, 1805, pp. 204-211; and Vol. XXXV, 1810. Pp. 241-247.

and mill ponds to bury itself in the mud with eels and snapping turtles; or to creep ingloriously into a cavern, a rat hole, or a hollow tree, there to doze with snakes, toads, and other reptiles until the return of spring! Is not this true, ye wise men of Europe and America, who have published so many *credible* narrations on this subject? . . . Is then the organization of the Swallow less delicate than that of a man? Can a bird, whose vital functions are destroyed by a short privation of pure air and its usual food, sustain, for six months, a situation where the most robust man would perish in a few hours or minutes? Away with such absurdities! They are unworthy of a serious refutation."

The whereabouts of the Chimney Swift during the colder months is still a mystery, but no doubt time will vindicate the judgment of the clear-headed Wilson in this instance, as it has already done in that of the Swallow. However, one of our most brilliant ornithologists, as late as 1878, when in one of his argumentative moods, in answer to his own question of where the Chimney Swift goes in winter, writes: "I suppose that it hibernates in hollow trees, and could give reasons for the suppositions."[1] Professor W. W. Cooke recently stated:[2] "With troops of fledglings, catching their winged prey as they go, and lodging by night in some tall chimney, the flocks drift slowly south, joining with other bands, until on the northern coast of the Gulf of Mexico they become an innumerable host. Then they disappear. Did they drop into the water and hibernate in the mud, as was believed of old, their obliteration could not be more complete. In the last week in March a joyful twittering far overhead announces their return to the Gulf coast, but the intervening five months is still the Swift's secret."

Of the comparatively few observers upon whom Wilson could place reliance, William Bartram, who had aided Edwards half a century earlier; was perhaps quoted the oftenest. John Abbott, of Savannah, an artist and student of Nature,

[1] Coues, Birds of Colorado Valley, 1878, p. 377.

[2] Some New Facts About the Migrations of Birds. Year Book of the Dept. of Agri. for 1903, p. 386.

furnished him both notes and specimens at a price mutually agreeable. Dr. Samuel L. Mitchell, of New York, favored him with an excellent study of the Pinnated Grouse; and John L. Gardner, of Gardner's Island, considerable data on the Bald Eagle, Osprey and Fish Crow. He was also indebted to Dr. Nathan Potter, of Baltimore, for manuscript on the Cowbird; and to Judge John Joseph Henry, of the Supreme Court of Pennsylvania, for information relating to the Purple Martin. From Charles Wilson Peale, the portrait painter, he received much material in the way of specimens; and he reciprocated by depositing many of his types and rare specimens in Peale's musuem, which, from a gallery of portraits of historical personages painted by the proprietor since 1784, had gradually embraced: "Everything that walks, creeps, swims, or flies, and all things else." The founder deserves more than passing notice. In an Introduction to a Course of Lectures on Natural History, delivered at the University of Pennsylvania, November 16, 1799, and published in 1800, he quaintly says: "Little did I then know of the labour I was bringing on these shoulders,—though I was called *mad*, and cautioned to beware of the gulph into which many others of greater merit had fallen, —*neglect and poverty*. Yet so irresistibly bewitching is the thirst of knowledge with science of nature that neither the want of funds, nor leasure from other occupations, could damp my ardour, though a thousand difficulties rose in succession."

Two volumes remained to be published when the master laid down the pen, pencil and brush. No one promising the ready versatility of the lamented Wilson, could be found. It was fortunate, therefore, that little beyond editing the author's notes for the final volume, was required. George Ord had done good field work under the eye of Wilson during the last few years, and to him as an almost sacred trust, fell the task of completing the contract broken by the death of the author. Volume VIII required the engraving of a single plate and the writing of the preface, Volume IX the editing of, and in some instances, the supplying the want of Wilson's notes. The plates having already been engraved, Ord performed the part under his control acceptably, apparently without thought of

claiming joint authorship at this time. It is said that Wilson as a crowning effort toward artistic excellence, had intended coloring the chief parts of these plates himself; and the publishers had resource to an artist who formerly enjoyed the confidence of the author by his skill. The final volumes appeared in January and May, 1814. George Ord was born in Philadelphia, 1781, and died January 23, 1866. He was one of the first vice-presidents, and later the president, of the Philadelphia Academy of Natural Sciences. His biography does not appear in any work with which I am familiar.

The awakening produced by the appearance of Wilson's fine work quite naturally led to further discoveries in the ornithological line and a demand for supplements or a continuance of the work in similar style. The recently organized Academy of Natural Sciences was attracting men of ability in this line of research: Ord, Say, Peale, Harlan, Bonaparte, Rafinesque, Harris, Townsend, Nuttall, Audubon, Trudeau, and others. The first three gentlemen, and William Maclure, president of the Philadelphia Academy for some years, had made a collecting trip in company to Georgia and East Florida in 1818, which was interrupted by Indian troubles. Three years earlier, in Guthrie's Geography, Ord had given technical names to a number of new birds first mentioned in the belated government report of the Lewis and Clark Expedition of 1804-06; and in his eulogistic remarks on Wilson, said: "May his noble example stimulate some zealous naturalist to complete the design of our ornithologist; a task by no means easy of execution, but if accomplished with like success, will be attended with honour and fame commensurate to the hazard and difficulty of the undertaking."

Agreeable to the orders of Secretary of War J. C. Calhoun, an exploring and scientific expedition was organized, and departed for the Missouri river region on May 5, 1819, floating down the Ohio river from Pittsburgh. It was under the command of Major Stephen H. Long, with Lieutenant Graham and Cadet W. H. Swift as assistants. Major O'Fallon subsequently became attached to the party as Indian agent. The scientific corps included Dr. Baldwin, botanist; Thomas Say,

zoologist; Mr. Jessup, geologist; Titian R. Peale, assistant naturalist; Samuel Seymour, artist.

It appears that the civilian attaches wore the fatigue dress of common soldiers. On October 11 Major Long, Mr. Jessup and several other persons took leave of their friends at Engineer Cantonment and descended the Missouri in a canoe, on their way to Washington and Philadelphia. Say furnished an account of the expedition during the commander's absence; also all descriptions of birds, mammals, and insects. August 24, 1820, Major Long arrived at St. Louis on his way from Philadelphia to Council Bluff to rejoin the party, accompanied by Captain John R. Bell, who was to relieve Lieutenant Graham; and Dr. Edwin James, who had been appointed to serve as botanist and geologist on recommendations of Dr. Torrey and Captain LeConte in place of Dr. Baldwin, who had died at Franklin on August 31, 1819, and Mr. Jessup, who had returned. They arrived at Engineer Cantonment on May 28, 1820. The expedition now consisted of twenty persons. Say headed a party and rendered an account of a trip down the Arkansas river, where he lost clothing, Indian presents, and valuable manuscript notes by deserting soldiers. On October 12, 1820, the reunited party assembled at Cape Girardeau on the Mississippi and dissolved via New Orleans, about the first of November. Peale's sketches amounted to 122, of which 21 only were finished, the residue being merely outline sketches of quadrupeds, birds, insects, etc. More than 60 prepared skins of new and rare animals were deposited in the Philadelphia (Peale's) museum. Youmans is the authority for the statement that Say refused the opportunity of acting as historian and Edwin James compiled the report as published in 1823.

As a bird biographer, Wilson had no immediate followers, excepting Audubon. Ord scarcely attempted it, Say was more of an entomologist than ornithologist, and Peale wrote little until he made his report on the birds of the United States Exploring Expedition to the South Seas.

At length the demand for a continuation on the plan of Wilson was met by the announcement of Charles Lucian Bonaparte, who says in part: "A love for the same department of

natural science, and a desire to complete the vast enterprise so far advanced by Wilson's labors, has induced us to undertake the present work, in order to illustrate what premature death prevented him from accomplishing, as well as the discoveries subsequently made in the feathered tribes of these States. This undertaking was not precipitately decided on, nor until the author had well ascertained that no one else was willing to engage in the work."

Hugh Miller comments on this: "How vastly more strange and extravagant looking truth is than fiction! Our Edinburgh reviewers deemed it one of the gravest among the many grave offenses of Wordsworth, that he should have made the hero of the 'Excursions' a pedlar; and if so severe on the mere choice of so humble a hero, what would they not have said had the poet ventured to represent his pedlar, not only as an accomplished writer, and a successful cultivator of natural sciences, the author of a great work, eloquent as that of Buffon, and incomparably more truthful in its facts and observations? Nay, what would they have said if, rising to the extreme of extravagance, he had ventured to relate that the pedlar, having left the magnificent work unfinished at his death, an accomplished Prince — the nephew of by far the most puissant monarch of modern times — took it up, and completed it in a volume bearing honorable reference and testimony in almost every page, to the ability and singular faithfulness of his humble predecessor, the 'Wanderer.' And yet, this strange story would be exactly that of the Paisley pedlar, Alexander Wilson."[1]

Charles Lucian Bonaparte, Prince of Canino, and at the death of Lucian, his father, Prince of Musignano, was born in Paris, May 24, 1803, and appeared in the train of his uncle and father-in-law, Joseph Bonaparte, ex-king of Spain, about 1822. He is described by Dr. Edward Porter in a private letter dated October 25, 1825, as "a little set, black-eyed fellow, quite talkative, and withal an interesting and companionable fellow."[2] He concerned himself chiefly in nomenclature and classification. Indulging in some little field work about Philadelphia,

[1] History of the Bass Rock.

[2] Stone, Auk, XVI, 1899, p. 170

Long Branch, and Bordentown, New Jersey, the latter being the location of Joseph Bonaparte's estate, he devoted the most of his time to literary research and the critical examination of the preserved remains of birds. He was deficient in all that made Wilson great, yet such was his marvelous gift of discrimination and systematization, that he became one of the most famous ornithologists of his time The work which had been performed by Wilson's hands alone now gave employment to several individuals. Titian R., the fourth son of Charles Wilson Peale, not only collected many of the birds figured while on the Long expedition which were credited to Thomas Say, who originally described them in footnotes scattered through the report; or in a subsequent private trip to Florida during the winter and spring of 1825, under the patronage of Bonaparte; but also drew the figures engraved for the first, and two plates for the fourth and last volume. A German emigrant by the name of Alexander Rider, of whom little is known beyond that he was a miniature painter in 1813, and a portrait and historical painter in 1818, was responsible for the remainder of the drawings with the exception of the two figures of plate 4 of volume I, which he doubtless reduced from Audubon's large drawing, to the proper dimensions for the work. Bonaparte states plainly in the text, that his representations of the Boat-tailed Grackle were drawn by that zealous observer of nature and skillful artist, John J. Audubon; and Lawson has engraved on the plate, "Drawn by John J. Audubon and A. Rider." Ord, however, insisted that they were drawn by Rider from specimens brought from East Florida by Peale and himself. Bonaparte pronounced Rider's figure of the immature Red-headed Woodpecker the best representation of a bird ever published. It does indeed show to advantage in comparison with the poorly-colored figures of the Florida Jay and Northern Three-toed Woodpecker, on the same plate. Rider was also the expert colorist, not always up to the mark as evinced by a letter from Florence, October 5, 1829, in which Bonaparte says to Lawson: "That confounded Rider has enraged us to a pretty considerable extent. Look at volume first, all the red and

orange tints have been obliterated! . . . Shame upon him for employing such colors.!" [1]

Ord, Say, Peale, and Audubon furnished him with notes, chiefly biographical; and a Mr. Leadbeater, of London, sent some of his rarest specimens across the ocean that Bonaparte might examine and paint them on this side of the Atlantic. The author in his preface of the first volume, says: "To my friends, Mr. Thomas Say, and Dr. John D. Godman, my sincere thanks are due for the care they have bestowed in preventing the introductions of foreign expressions, or phrases not idiomatic, into my composition." Youmans says that almost all of Bonaparte's publications while in America were corrected and arranged for the press by Say. Yet he almost immediately writes of the latter: "Having been intolerant of literary studies in his youth, he never attained too happy command of language"; and also, "When Dr. Baldwin, the botanist and historian of Major Long's first expedition died, Say refused the opportunity, which his commander offered him, of continuing the journal of the expedition, alleging that he was incompetent for this responsible employment." [2]

Exclusive of his own work, Bonaparte seemed to have placed his chief reliance in his engraver. "Lawson can do no wrong." Alexander Lawson, the best engraver of birds in America, was born near Lanark, Scotland, in 1773, and came to Philadelphia in 1794. "A tall thin man of large frame, and athletic; full of animation, and inclined to be satirical, but as I should judge, full of good feeling and the love of truth. Krimmel [3] and Wilson he speaks of in rapturous terms of commendation, both as to talents and moral worth." [4] It is probable that to Lawson, Bonaparte is indebted for much of the excellence and accuracy of the plates. He relates of a captive Condor that, "during Mr. Lawson's almost daily visits for the purpose of measuring and examining accurately every

[1] Penn Monthly, 1879, p. 454.

[2] Pioneers of Science in America, 1896, pp. 221-222.

[3] Johann Ludwig Kimmel, a young painter of extraordinary gifts, drowned while bathing near Philadelphia in 1821.

[4] Dunlap's History of the Rise and Progress of the Arts of Design in the United States, 1834.

part for his engraving, he became so familiar and well acquainted that he would pull the paper out of the artist's hands, or take the spectacles from his nose, so that Mr. Lawson, seduced by these blandishments, and forgetting its character in other respects, does not hesitate to declare the Condors the gentlest birds he had ever had to deal with." The above illustrates the extraordinary pains taken by the engraver to insure the "minuteness of accuracy" so frequently praised by the author.

However, but for this gentleman's prejudice and obstinacy, some of Audubon's drawings might have been introduced. Audubon dwells briefly upon the unpleasant occasion: "[Philadelphia] April 14 [1824]. After breakfast met the prince, who called with me on Mr. Lawson, the engraver of Mr. Wilson's plates. This gentleman's figure nearly reached the roof. His face was sympathetically long, and his tongue was so long that we obtained no opportunity of speaking in his company. Lawson said my drawings were too soft, too much like oil paintings, and objected to engrave them." Lawson's verbal account of the same meeting, published not long afterward by Dunlap, exhibits a certain snobbishness not without grim humor. "One morning, very early, Bonaparte roused him from bed — he was accompanied by a rough fellow, bearing a portfolio. They were admitted and the portfolio opened, in which were a number of paintings of birds, executed in crayons or pastels, which were displayed as the work of an untaught wild man from the woods by Bonaparte, and as such the engraver thought them very extraordinary. Bonaparte admired them exceedingly, and expatiated upon their merit as originals from nature, and painted by a self-taught genius. Audubon — for the 'rough fellow' who had borne the portfolio, was the ornithologist and artist — sat by in silence. At length in the course of their examination, they came to the picture of the 'Horned Owl.' Bonaparte, who had been liberal in admiration and commendation throughout the exhibition, now declared this portrait to be superior to Wilson's of the same grave personage. 'It is twice as big,' said the engraver. . . . Lawson told me he spoke freely of the pictures, and said that

they were all ill-drawn, not true to nature, and anatomically incorrect. Audubon said nothing. Bonaparte defended them, said he would buy them, and Lawson should engrave them. 'You may buy them,' said the Scotchman, 'but I will not engrave them.' 'Why not?' 'Because ornithology requires truth in forms and correctness in lines. Here are neither.' . . . After a time Charles Bonaparte came again to the engraver, bringing with him one of the pictures, which he said he had bought, and requested to have it engraved for his work. Lawson consented, but it was found to be too large for the book. Bonaparte wanted him to reduce it. 'No, I will engrave it line for line, but I will not reduce it, or correct it in any part. Let him reduce it and I will engrave it.' Soon after Audubon came to the engraver with the same picture and said, 'I understand you object to engraving this?' 'Yes.' 'Why so?' 'This leg does not join the body as in nature. This bill is, in the crow, straight, sharp, wedge-like. You have made it crooked and wavy. The feathers are too large.' 'I have seen them twice as large.' 'Then it is a species of crow I have never seen. I think your painting very extraordinary for one who is self-taught — but we in Philadelphia are accustomed to seeing very correct drawings.' 'Sir, I have been instructed seven years by the greatest masters in France.' 'Then you have made dom bad use of your time,' said the Scotchman. 'Sir,' said Lawson to the writer, 'he measured me with his eye, and but that he found me a big fellow, I thought he might have knocked me down.'"

Perhaps it is fortunate for the fame of the great American bird painter, that the well-meant efforts of his fellow-countryman to aid him came to naught through the irascibility of the Scot.

It would be a matter of deep interest to know just what Wilson received from his publishers for coloring his plates, since it comprised the total received for his work. Doubtless it was none too much. The following entry in Audubon's journal while on this visit, is significant: "April 15. Prince Canino (C. L. Bonaparte) engaged me to superintend his drawings intended for publication, but my terms being much dearer than

Alexander Wilson asked, I was asked to discontinue this work." Like Wilson's Louisville note, this needs some explanation. Aside from the knowledge that Audubon was in a manner *persona non grata* to both Titian Peale, the artist (of whom he bitterly complained that after he had shown him all his drawings, refused him the sight of a new bird in his possession), and Alexander Lawson, the engraver (who severely criticised and refused to engrave his paintings), Bonaparte would scarcely have trusted an untried person, however talented, in any other capacity than that of colorer. The reference to Wilson must relate to his contract as colorist to the publishers of his work, this being the only employment in which he received pay; and of course cannot apply to the former's work, since Bonaparte was scarcely more than ten years of age at the time of Wilson's death.

With the appearance of the first volume in 1825, containing land birds only, Bonaparte remarked that owing to the industry of Wilson he was unable to adduce a single new Pennsylvanian bird, and for the contents he was obliged to resort to the western territories. Many of these birds had already been made known by Say, and he was fortunate in procuring the drawings made at the time from the freshly killed specimens by Peale, the ornithologist of the party. It was planned to have the second volume contain the water birds, and the third to chiefly consist of Peale's gleanings from Florida, so that with the nine previously published by Wilson and Ord, the whole subject would have been embraced in twelve volumes; but extended researches to the most opposite and remote parts of the Union brought enough land birds to make up two volumes; and the water birds were reserved for a fourth volume.

Bonaparte returned to Europe some time in November, 1826, since Audubon records in his European journal under the date of December 7, "I saw in this day's paper that Charles Bonaparte had arrived at Liverpool in the 'Canada' from New York." Volume II and III came out in 1828. The year previous he had published his Catalogue of the Birds of the United States,[1] and his Supplement to the Genera of North

[1] Contributions to the Maclurian Lyceum of Arts and Sciences, I, pp. 8-34.

American Birds,[1] which, according to Coues, raised the number of species to 366, and of genera to 83, nearly a hundred species having thus been made known since Ord laid aside the pen that Wilson had dropped. Apparently the author had nearly completed his share of the work on the fourth number before his departure, and why Carey, Lea, and Carey delayed its publication until 1833, is impossible to conjecture, unless it was incident to the change in the firm which became Carey and Lea, with William Brown as printer as formerly. In a letter to his engraver in October, 1829, the author expressed surprise that he has heard nothing of it and directs Lawson to draw on his account, or, preferably, the publishers, for services as engraver; generously suggesting that the price 60 (dollars?) as fixed by publishers, should be 90 (dollars?) the price paid for the engraving of the Condor plate. The Prince had planned a fifth volume, and Lawson was to begin on a plate composed of the Canada Goose, a large Godwit with a black tail, and a young *Phenicapierus;* and continue with the Pelican, Gulls, &c. His scientific friend, William Cooper, of New York, to whom he had dedicated the Cooper's Hawk, was to furnish the drawings, and the birds, as well as all the directions. Of this nothing further is heard.

Coues aptly terms Bonaparte's American Ornithology a quasi-continuation of Wilson's work, gotten up in similar style, if not spirit; and warns the student that the original distinction and complete separation of the two works must be fully recognized.

In figuring and describing the females and immatures of a number of species, Bonaparte supplied a desiderata, and rendered his labors, in a manner, supplementary to that of Wilson. The work is not remarkable for the number of new species described, although here the majority are correctly figured for the first time The Semipalmated Plover (*Ægialitis semipalmata*)[2] he had already found distinct and had separated it from Wilson's Ring Plover (*Charadrius histicula*) which Ord

[1] Zoological Journal, III, pp. 49-53.

[2] Observations on the Nomenclature of Wilson's Ornithology. Jour. Acad. Nat. Sci., Phila., V, 1825, p. 98.

had renamed the Piping Plover (*Æ. meloda*). The Zenaida Dove (*Zenaida zenaida*) and Limpkin (*Aramus gigantus*)[1] had been described by him soon after Peale, his collector, returned from Florida. Professor Trotter[2] suggested that the Zenaida Dove was so named in honor of the author's wife, Zenaide Charlotte Julie, daughter of Joseph Bonaparte, the ex-king of Spain. Peale's Egret (*Dichromanassa pealei*), taken by T. R. Peale in Florida; and the Stilt Sandpiper (*Micropalma himantopus*), which he had taken himself while in company with William Cooper, at Long Branch, New Jersey, July, 1826; were described in a paper read November 26 of that year, in New York.[3] The Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*) had been described elsewhere, but the want of an original name was not discovered until shortly before this time.[4] The Sage Grouse (*Centrocercus urophasianus*) described the year previous[5] through the courtesy of Mr. Leadbeater from the only known preserved specimen; had been found in great abundance by the Lewis and Clark expedition.

The Burrowing Owl (*Speotyto cunicularia hypogæa*) had been found in the West by the Long expedition, but Say considered it and the South American and West Indian of Molina and Vieillot, inseparable; Bonaparte, however, threw an anchor to windward, in the shape of a footnote: "Should they prove to be different species, new appellations must be given; and, as that of *Strix cunicularia* will, by right of priority, be exclusively retained by the Coquimbo Owl, we would propose for the present bird the name of *Strix hypogæa*."

Two species only were perfectly new to science, the Cooper's Hawk (*Accipiter cooperi*) taken presumably by the author, in

[1] Additions to the Ornithology of the United States, *Ibid.*, *pp.* 30-31.

[2] Cassinia, IX, 1905, p. 4.

[3] Further Additions to the Ornithology of the United States; and Observations on the Nomenclature of Certain Species, Annals Lyc. Nat. Hist., New York, II, 1828, pp. 154 and 157.

[4] On the distinctions of two species of Icterus, hitherto confounded under the specific name of Icturocephalus, Jour. Acad. Nat. Sci. Phila., V, 1825, p. 223.

[5] Zoological Journal, III, 1827, p. 213.

the latter part of September, near Bordentown, New Jersey, and Say's Phœbe (*Sayornis saya*), shot by Peale on July 17, 1820, near the Arkansas river, about twenty miles from the Rocky Mountains. Whether the latter had been overlooked, considered a doubtful species by Say, or reserved for some one else to describe in honor of the zoologist, is not known.

Audubon met Bonaparte again in London, June 18, 1827, and writes: "His mustachios, his bearded chin, his fine head and eye, all were the same." Four days later Bonaparte and some other gentlemen called upon Audubon. "My portfolios were opened before this set of learned men and they saw many birds they had not dreamed of. Charles offered to name them for me, and I felt happy that he should; and with pencil he actually christened upward of fifty, urging me to publish them at once in manuscript at the Zoological Society. These gentlemen dropped off one by one, leaving only Charles and Mr. Vigors. . . . I cannot tell you how surprised I was when at Charles' lodging, to hear his man-servant call him 'Your Royal Highness.' I thought this ridiculous in the extreme, and I cannot conceive how good Charles can bear it; though probably he *does* bear it because he *is* good Charles." On December 4 he records: "A letter from Charles Bonaparte tells me he has decided not to reside in America, but in Florence: this I much regret."

Bonaparte soon busied himself in preparation of his Fauna Italica, and, in a manner, severed his active participation in American ornithology with the appearance of his Geographical and Comparative List of the Birds of Europe and the United States in 1838, though his influence is felt in our nomenclature up to the year of his demise. He died in Paris, July 29, 1857.

It can be said of the Prince that for all his royal pretentions he appeared at best advantage when surrounded by a scientific atmosphere. He fraternized with the votaries of art, science and literature, whatever their condition or previous position in life. He was second only to Ord in his admiration and appreciation of the genius of his predecessor, and Ord was peculiarly sensitive to anything touching the fame

and honor of Wilson. He vastly enriched the ornithological literature of the world, and laid the foundation in this country of that apparently fascinating drudgery, characterized "synonymy," which is so easily degenerated into a bore.

[Since writing the above, Rhoads' brief memoir of George Ord has appeared in the Cassinia, No. XII, 1908 (issued March, 1909). The author has been unable to ascertain whether the subject of his sketch was born in Philadelphia or England. I have been informed by Henry T. Coates, who has it direct from Willis P. Hazard, an old-time collector of Wilson's, that Ord was born and had died in the same house on Front street.]

THE STATUS OF THE AMERICAN BARN OWL (*Strix pratincola*) IN PICKAWAY COUNTY, OHIO.

BY B. R. BALES, M.D.

Like several other species, notably Bewick's Wren and the Mockingbird, it has only been in comparatively recent years that the Barn Owl has been considered an Ohio bird. In Dr. J. M. Wheaton's "Report of the Birds of Ohio," published in 1880, only five instances of this bird's capture had been recorded in this state, and one of these specimens was taken in Pickaway County. At the time that Dr. Howard Jones informed Dr. Wheaton of the capture of this species in the summer of 1873, he also informed him of a specimen taken in the spring of 1870, but for some unaccountable reason, this record was not incorporated in Dr. Wheaton's Report. Both of these birds were killed in the Scioto River bottoms, west of Circleville. Only one of these was preserved, it being sent to the Museum of Hobart College at Geneva, N. Y. On February 14, 1890, a specimen that had been taken in the Scioto River bottom west of Circleville was brought to me; this was the first Barn Owl I had ever seen. In May of the following year, 1891, a bird of the year, fully feathered, was brought to me; it had been shot at Forest Cemetery, which is bounded on one side by the Ohio Canal, and is less than a mile north of Circleville.

In 1892, a specimen was shot at the Turney farm, about two and one-half miles west of Circleville, and was mounted by Mr. Oliver Davie for Mr. R. G. McCoy, who was living on this farm at the time.

In 1893, another bird was shot on this same farm, and was brought to Dr. Howard Jones, who mounted it.

In 1894, still another was killed on the same farm, and was mounted by Mr. Davie for Mr. McCoy.

In 1895, two young Owls, well feathered, were captured alive on the same farm, and did duty as freaks in a saloon in Circleville.

It remained for Dr. Howard Jones to take the first set of eggs. These were secured at the Turney farm on May 27, 1897, from a natural cavity, about twenty-five feet from the ground, in a maple tree standing on the bank of a mill race, within a quarter of a mile of Darby Creek. There were six eggs in the nest; incubation varied, from one egg in which incubation was slight, to one in which incubation was well advanced. This nesting site is illustrated in Dawson's "Birds of Ohio." It is very likely that all of the Owls taken from 1892 to 1897 were reared in this cavity.

In 1898, two well-feathered young were brought to Dr. Howard Jones; they were taken at the outskirts of Circleville, near Hargus Creek.

In 1900, a tinner kept one in a cage in his shop for some time. This bird also came from along Hargus Creek, within a mile or two east of Circleville.

On February 18, 1908, a male in excellent plumage was brought to me; it was shot at the ice houses of the Circleville Ice Company, which are situated just north of Circleville, along the Ohio Canal, one-half mile from the Scioto River.

On May 11, 1908, I had the good fortune to discover the nest of this species. The nest was situated in a large sycamore tree standing on the bank of, and overhanging Hargus Creek, one mile east of Circleville. The tree has lost its top, and from the point where it is broken, there extends upward for about twenty-five feet, a large limb and several good-sized branches. At the point where the top is broken off, the wood has decayed, forming a cavity three feet deep. At the bottom of the cavity six eggs were found, the eggs being laid on the rotted wood with no attempt at nest-building. Both male and female Owls were on the nest when it was discovered. Incu-

bation in the eggs varied from one, in which there was just a trace of blood showing, to one that was fully one-half incubated. The cavity was forty feet from the ground.

This same tree was the home of a "happy family." Four feet below the Owl's nest was a den of Fox Squirrels (*Sciurus rufiventer*) that contained four young ones, and the limb and one of the larger branches above the Owl's nest, an occupied nest each of Red-headed Woodpecker (*Melanerpes erythrocephalus*) and Northern Flicker (*Colaptes auratus luteus*).

On July 17, 1908, a small colored boy brought me two young Owls; they were still covered with a grayish white down and showed quite a difference in size. The boy said there were two more in the nest, but that they were much smaller than the ones brought to me. These were taken from a hollow in a large sycamore tree, standing on the banks of Hargus Creek, within the corporation limits of Circleville and about a mile west of the nest mentioned above. It is possible that this was the second laying for the same pair of birds.

On November 11, 1908, a male in full plumage was brought to me; it was shot at the ice houses, the same place as the one taken in February, 1908, and on the following day, November 12, a female was brought in. This bird was shot from a willow tree in day time, in the Scioto River bottoms, west of Circleville.

While it is possible, and very probable, that there have been other specimens of this species taken in Pickaway County, these, I think, are the only authentic records.

From the above records, it will be seen that every specimen mentioned was taken in the vicinity of water, indicating that this bird, at least in this locality, has a preference for such situations.

It will also be noticed that all of the specimens were taken within a radius of two and a half miles of Circleville, indicating a preference for the vicinity of dwellings.

That this Owl is one of the most valuable birds to the agricultural interests is shown by the stomach contents of the three full grown birds that I observed in 1908.

Stomach No. 1 contained the remains of three mice; stom-

ach No. 2, the remains of two mice; stomach No. 3 the remains of three mice and a shrew.

It has been stated that the apparent scarcity of Barn Owls in times agone was not due to the actual scarcity of the birds, but was due to the fact that they had better means of concealment, and that with the gradual destruction of woodlands, came the gradual increase in numbers observed. Be this as it may, no bird is deserving of more protection than the Barn Owl, for it is truly the farmer's friend.

CIRCLEVILLE, OHIO, Jan. 5, 1909.

MIGRATION HALTS.

ALTHEA R. SHERMAN.

It is difficult to ascertain whether the duration of visits from migrating birds is that of a minute, a day, a week, a month, or even more, except when the visitors are of rare species, or have some distinguishing marks, or are associated in some special manner with others of their kind. Of this last named class was a Downy Woodpecker, attended by one of his young, which he was feeding constantly, although the youngster appeared quite able to take care of itself; their advent was upon the Fourth of July, and they staid two days. This may not be considered a true migration halt, yet the early shifting of birds from their breeding range is worthy of note, and possibly may mark the beginning of their southward movement. The summer visiting species that come under my observation are of two sorts, as regards their breeding haunts, those of the true woodland varieties, and the marsh birds.

Usually during June only our neighborhood breeding birds are to be seen, but in the early days of July the forest birds begin to come upon the prairie. In 1908 the Downy Woodpeckers were the first pioneers, followed by a juvenile male Rose-breasted Grosbeak, then Hairy Woodpecker, Chickadee, Black-billed Cuckoo, Yellow Warbler, Redstart, and Screech Owl came in rapid succession. One summer a very ragged Redstart was seen about our place almost every day for nearly

a month. The Solitary Sandpiper and Wilson Snipe are rare callers during migration, therefore when one of the former, or a small flock of the latter is seen almost daily for a week or two, it is natural to conclude that they are the same birds each time. Of the rails, both Sora and Virginia individuals have been recognized as remaining in one locality for more than a month.

Sparrows, apparently, are great laggards, yet it is difficult to say whether flock succeeds flock day after day, or the same birds linger many days. Sometimes a Junco, flecked with white spots, or one with reddish sides (presumably a Montana Junco) makes it certain that the same bird remains for several days. Very convincing evidence was furnished last autumn of a long stop made by some of the Fringillidae. By most observers near the Mississippi River the Harris Sparrow is reported as a rare migrant. I usually am able to mark him as present upon several days in the fall, and sometimes in the spring, but hitherto the longest visit has been for a few days only. Last fall he arrived promptly on September 30 and remained until November 2, being seen every day but four of this period, and those were windy or stormy days. On several days three of the Harris Sparrows were seen together, and once I saw four of them sitting so closely together on the top of a brush-pile that all were within the field of my binocular. The black on throat of one was quite distinct throughout its whole extent, on another bird the black showed on one side and was almost wanting on the other. These points, taken with the rarity of the species here, and the constancy with which they were watched, make it pretty convincing that the same birds were here during the thirty-four days.

They, in company with a half-dozen other sparrow species, chose to roost in dense shrubbery near the east side of the house. A note they uttered, when going to roost more frequently than at other times, suggested the happy chirp of a chicken when under the shelter of its mother's wing. Probably thick foliage to protect them at night, food found in a riotous weed-patch (furnished by a neighbor), and mild weather were the inducements that led the Harris Sparrows to postpone their

departure, which was later than that of most of the other sparrows. Associated with them during the greater part of their stay were three Fox Sparrows; at times also numerous White-throated, Song, Swamp, Field and Tree Sparrows, Juncos, a half-dozen or more Lincoln and two or three Clay-colored Sparrows. Somewhat apart from this company was a small flock of Purple Finches, the same birds it is believed were seen every day and remained nearly three weeks. During the day the Harris Sparrows were generally to be found in one of four places, either in a brush-pile, a thicket composed of dwarf plum trees and raspberry bushes, a weed patch, or in willow trees that overhung a favorite bathing place for the birds; all four of these places can be described within a circle having for its radiance one hundred yards.

While driving ten or twelve miles over prairie roads during migration days, one soon comes to look for Juncos and their congeners chiefly in the vicinity of the farm-houses, which, more often than not, are built on hill-tops and provided with wind-breaks of evergreen trees. On the other hand, a drive of equal length through the neighboring woodlands with farm-houses in clearings reveals the sparrow hosts, not near the farm buildings, but where thickets are growing in sheltered places. These observations may lead one to think that sparrows in their migration halts are influenced to tarry in certain places quite as much by sheltered roosting-places as by good food supplies.

AN EXERCISE IN BIRD STUDY.

BY W. F. COPELAND.

During the summer school at Ohio University, the class in Bird Study did some work that I wish to report. Students were asked to select a nest containing young birds, make observations for one day, and report same to the class. Such studies have been made by others and have always been highly recommended by them. Others have made the criticism that there is a probable error because the birds are more or less disturbed by the presence of the observer. In the reports here

given, all we can say is that the parent birds fed their young a certain number of times, but it can reasonably be assumed that, had the observer been absent, the number of visits to the nest would not have been diminished, but more likely been increased.

These observations were carefully made and care taken to make the records exact. By way of commendation, it is safe to say that a day's work of this sort has much value, even though much has to be eliminated on account of error. A student cannot avoid the fact that birds are actually doing work, and by knowing the amount that one pair is doing every day, he has an index that will tell him approximately what that particular species is doing for his community.

I see no impossible reason why such an exercise might not be used with interest and profit in our public schools and more especially in rural districts. Of course we are to insist upon exact observations and records, but I do not think that we are to be more interested in records than we are concerning the influence of such studies upon the life of the pupil. And so I wish to repeat that I think there is enough of real value in this exercise, after all errors are omitted, to make it well worth recommending to every bird student and teacher.

Below are given brief extracts from reports made before the class:

YELLOW-BREASTED CHAT.

By Ernestine Cooley.

The nest was found June 20, '08, in a clump of bushes and briers. It was loosely put together, being made of leaves and bark from the grape vines. Four little birds, probably four days old, were in the nest. On Saturday, July 4, the entire day was spent near the nest, the observations beginning at 4 a. m. and ending at 6:45 p. m. The parent birds being so nearly alike it was not always possible to distinguish between them, but occasionally both visited the nest at the same time, proving beyond a doubt that both brought food to the young.

During the morning the birds seemed annoyed by my presence and would often make considerable fuss before coming to the nest, but in the afternoon they would slip in quietly, and

required careful watching. Only twenty-four times during the day could I be sure that the birds fed their young. Three times I was sure it was the male, and eight times the female. The remaining sixteen times I was not sure which one. Each time I had an opportunity to see, the birds had a short worm or grub.

The average feeding was once in thirty-four minutes. The longest intervals were from 6:20-7:50; 9:05-10:50; and from 1:05-3:10. The following figures give the intervals in minutes for the entire day: 23, 12, 75, 90, 18, 7, 50, 105, 32, 28, 15, 60, 25, 100, 37, 13, 15, 20, 25, 15, 15, 20, and 5.

Twice during the day the male bird sang for some time in a nearby sycamore tree. At one time he gave a circus-like performance, flying butterfly-fashion from his tall perch to a low bush, and singing as he descended. The female spent a part of the time on the nest. The longest interval being from 9:05-9:45, and at 6:45 had come to the nest for the night.

I wish to note that this was the 4th of July and the shooting of firecrackers across the river may have disturbed the birds, for I am inclined to think they would otherwise have fed oftener. Perhaps Mr. Chat and his good wife were aware that the Fourth is a legal holiday.

WOOD THRUSH.

By Jay A. Myers.

These observations were made at the state hospital grounds, Athens, Ohio, July 11, '08. I had gone to watch the Wood Thrush feed its young and to learn some of its habits. The nest was about ten feet from the ground on a horizontal branch of a water beech. Two or three pieces of paper had been placed on the limb and upon this the nest had been constructed of dried grass, moss, leaves, and mud, and lined with fine roots. My observations began at 4 a. m. and lasted until 7 p. m. The feedings recorded were as follows:

From	4- 5 a. m.	11 times
	5- 6	16
	6- 7	9

From	7- 8	9	times
	8- 9	10	
	9-10	6	
	10-11	9	
	11-12	10	
	12- 1 p. m.	8	
	1- 2	7	
	2- 3	9	
	3- 4	9	
	4- 5	2	
	5- 6	10	
	6- 7	5	

It can thus be seen that the parent birds fed their young 130 times in fifteen hours, or an average of once every seven minutes. Their food consisted of bugs and insects, and instead of bringing but one they usually brought from two to four each time. One of the birds, I suppose the male, would bring food to the nest, and after feeding the young would fly to a near branch and sing until the mate came with food. At one time he sang forty-nine times. The female generally stood on the edge of the nest for five or ten minutes after feeding the young.

ROBIN.

By David B. Grubb.

These observations were made at the state hospital grounds, Athens, Ohio, July 11, '08. The nest was made of grass and mud, and was on a horizontal branch of an elm tree, about eighteen feet from the ground. There were two young birds about ready to fly; often during the day they would climb up and sit on the edge of the nest. The mother bird did all the feeding of the young, and in nearly every case I found the food to be an earthworm; once in a while she would bring a grub.

I began my observations at 4 a. m. and watched fifteen hours. The birds were fed as follows:

From	4- 5 a. m.	6	times
	5 6	3	
	6- 7	6	
	7- 8	3	
	8- 9	3	

From	9-10	6 times
	10-11	5
	11-12	6
	12- 1 p. m.	5
	1- 2	4
	2- 3	5
	3- 4	3
	4- 5	2
	5- 6	5
	6- 7	5

This makes a total of sixty-seven times by the mother bird for two young ones, or an average of once in fifteen minutes. The mother bird paused for a few moments at the nest before feeding the young. The male did not help in feeding, but on several occasions came and sang for a while near the nest.

SONG SPARROW.

By James P. Alford and C. Lee Shilliday.

This nest was in a clump of woodbine about eighteen inches from the ground. The following notes were recorded July 28, 1908, from 4 a. m. until 7 p. m., at the state hospital grounds, Athens, Ohio. The morning was damp and chilly, and a dense fog was present until about 5 a. m. The mother bird remained on the nest until that time. The first food was brought at 5:10. Both parent birds assisted in the care of the young, and fed them as follows:

From	5:10-6 a. m.	4 times
	6- 7	5
	7- 8	5
	8- 9	7
	9-10	3
	10-11	10
	11-12	6
	12- 1 p. m.	4
	1- 2	5
	2- 3	5
	3- 4	9
	4- 5	9
	5- 6	11
	6- 6:30	3

Making a total of eighty-six times for the day, or an aver-

age of once every eleven minutes. The food was small-winged insects and larvæ. The parent birds seldom went directly to the nest with food, but perched on nearby twigs for a few moments.

WARBLER NOTES FROM WAYNE COUNTY, MICHIGAN.

BY J. CLAIRE WOOD.

Mr. P. A. Taverner's interesting paper in the Wilson Bulletin for December, 1908, on ornithological observation in this locality impresses one with the difference a few miles can make, especially in warbler migration. Normal years he regards May 4 as marking about the height of the warbler migration while a reference to my note-book establishes May 15 as the average date in the zone of my observations. During the season of 1908 he found practically no warblers until May 17, when they rushed through in almost a day. This doubtless refers to a section north of the city, for southwest of the city and other portions of the county I found the warblers in normal abundance. The spring season opened with several flocks of Myrtles and a Pine on April 19 and thence transients were noted on most all days afield, concluding with a Blackburnian and three Black-polls on May 28.

I regard the above as about the normal range and, for contrast, wish to state that the very remarkable season of 1907 opened with five Myrtles on April 7, and concluded with three Mourning on June 30. The autumn of 1908 was so divided between the warblers, waders and hawks that I can not fix the status of local warbler abundance by a comparison with the three previous seasons which were almost entirely devoted to the warblers. However, they seemed a trifle scarce, but I doubt if they departed unusually early. The total time given them in October did not exceed four hours, so the following is probably very incomplete. October 4—Last of Water-Thrush, Blackburnian and Cape May. October 6—Last of Tennessee. October 11—Last of Yellow-throat, Black-poll and Magnolia.

The exceedingly dry autumn resulted in forest fires that raged through the wooded districts of Michigan, causing serious loss in property and many human lives. The dense volume of smoke impaired navigation on the Great Lakes for a time and reached this city, Detroit, on the evening of September 11. The next morning this section was enveloped as in a dense fog and the sun shone as through smoked glass, and thus began a spell of alternate smoke and sunshine, according to the condition of the air and direction of the wind. September 21 the smoke was so dense that I could not run lines with the surveyor's transit.

Nine o'clock in the morning I counted thirty Blackburnian and four Black-poll Warblers in several maple trees near the lower end of River Rouge Village. They were still there at four o'clock in the afternoon. September 22, small flocks of Black-poll and Tennessee Warblers were stalled in the shade trees all through the village, but were gone on the 23d. It was only on days like the above that the warblers seemed in any way affected, and the waders not at all.

Mr. Taverner gives September 13 as his earliest fall date for the Lincoln Sparrow. I took a male September 7, 1906, which is in my collection. This bird was in company with two others, and later in the day, two single birds were noted about a mile distant, which looks as if careful investigation would fix the date of first arrivals in the first week of September.

The Philadelphia Vireo is certainly not common here, but I believe a few pass through every year. I have not yet systematically investigated the local vireos, but during the warbler investigation (1905-7) eight vireos of this species were mistaken for warblers and taken on the following dates: May 17 and 20, June 2, and September 3, 10 and 24. Twelve more were identified in time to save their lives. Except a flock of three in the autumn and one pair on June 2, all were single birds. This vireo possesses more warbler characteristics than any other species I have met with, and can not be separated with certainty when in the tops of tall trees.

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EDITORIAL.

Unforseen difficulties arose which made it necessary to defer until the next issue the beginning of both the Hawk papers and the paper on the birds of Cedar Point. The delay is in the interest of better papers when they do begin.

We have already indicated what are some of the plans for the Bulletin for the coming year; these need not be repeated. Improvements begin with this issue and we expect them to continue during the succeeding issues. The quality of these improvements and their value we are very willing to leave to the reader. Many things which we would be glad to do must wait upon time and the means.

Migrations have already begun and nesting will be in progress shortly after this issue reaches its readers. Do not forget that one of the things you are surely going to do this year is to study carefully as many nests as your time and circumstances will permit. Blanks for recording such studies may be had by addressing either the Bulletin at Oberlin, Ohio, or Mr. Frank L. Burns, Berwyn, Pa. You are welcome to as many as you will use, or expect or hope to use.

FIELD NOTES.

TUFTED TITMOUSE.—The Tufted Titmouse is rare in Erie County, Pa. The first one I had ever seen in this county came December 26 to some suet a few feet from the house and ate freely. He was very shy and nervous and was only seen at long intervals, until one morning he found a box of nuts. All fear vanished before such good fortune and he flew to the windows, searching for a place to store his booty. Failing to break in the house he tried to squeeze himself through the lattice under the porch, but he was too fat. He comes every day in company with two downy woodpeckers, two nuthatches, and five or six chickadees. As the food is to be found in a number of places on the bush, six or seven birds may often be seen feeding at the same time. Flickers are reported feeding on suet two blocks away.

North East, Pa. MISS R. M. LEETE.

GOLDEN EAGLE (*Aquila chrysaetos*).—I have had the pleasure of handling an immature male of this species, secured on November 13, 1908, at Dublin Gap, near Newville, Cumberland County, Pennsylvania, by Mr. Richard Dawson, a local sportsman. In this connection I wish to correct an earlier local record, erroneously accredited to the Bald Eagle (*Haliaetus leucocephalus*) (Cf. Wilson Bulletin, No. 18, Jan. '98, p. 4). Although it was captured within gun sound of my home, April 7, 1894, I had no opportunity to examine it at the time. It recovered from its wound and was kept for many years at the Sorrel Horse tavern on the Old Lancaster road in Delaware County, where Mr. W. L. Baily found it. (Cf. Abstract of the Proceedings of the Delaware Valley Ornithological Club, 1898, p. 4).

Berwyn, Pa. FRANK L. BURNS.

LOON (*Gavia imber*) IN PENNSYLVANIA.—I have to record the third specimen and second female of the Loon (*Gavia imber*) from the flock occurring in the Chester valley on November 14, 1908. It had dropped from the flight, into Jeanes' mill dam, about a mile above where the first pair met their death, as already related. Here it tarried, lost and weakened. It seemed unable or unwilling to fly, and some men about the place caught it in a scoop net, examined and liberated it after receiving some bruises from its beak. It was found dead on the 10th of December, greatly emaciated, stomach empty, save a few rather coarse pebbles, and without a sign of a wound. It undoubtedly starved to death, as this body of water is practically without life suitable for food, having been recently cleaned after several car loads of quicklime had been accidentally dumped in the stream above. It is doubtful if a single member of this flock performed the flight successfully.

Berwyn, Pa. FRANK L. BURNS.

BOHEMIAN WAXWING IN NORTHEASTERN IOWA.—The monotony of bird interests this winter has been relieved by the visit of a small flock of Bohemian Waxwings; nine was the largest number seen at one time. Arriving in beautiful weather on December 29, they remained until January 17, experiencing some cold days when the mercury hovered around twenty-seven degrees below zero. The mild autumn had induced many Robins to stay late, and they had despoiled the two mountain-ash trees in the neighborhood that were loaded with berries. The Bohemian Waxwings found a meager larder, a few frozen apples, cedar and mountain-ash berries. When the last berry had been taken from the trees they ate those that had lain for weeks upon the ground, and when the supply was nearly exhausted one bird was seen feeding another.

National, Ia. ALTHEA R. SHERMAN.

A LUNCH COUNTER.—A friend of the family became interested in a shelf I had arranged outside my window. When she ascertained its purpose—a feeding place for the birds—it brought up the fact that the editor is a personal friend of the family of which she is a member—Kimball.

This bird-shelf has been visited almost daily by Downy and Hairy Woodpeckers, Flickers, Blue Jays, Chickadees, White-breasted Nuthatches, and occasionally Brown Creepers, Goldfinch and Tree Sparrow. Not an unusual list for this vicinity, but I have been astonished at the amount of food they consume and carry away. In the colder weather the Chickadees and Nuthatches virtually stand in line all day for their opportunity to snatch a bite. Nuthatch is generally the earliest arrival and has right of way all day, but seldom eats at the board. He prefers to fly to some neighboring tree and give somebody else a chance. If a Chickadee stops to eat, Nuthatch often comes without warning and there is a clash of wings, Chickadee going to a nearby perch temporarily. Chickadees are a little more respectful of each other's rights and will await their turn, though scolding about it. I have not seen two birds feed there at once. Walnuts are the popular food; green or raw peanuts a close second. Suet as a last resort for these. Titmice, etc., Woodpeckers prefer suet.

Madison, Lake Co., Ohio. CARL C. LAWSON.

REDPOLLS ONCE MORE (*Acanthis linaria*).—The Redpoll came over my ornithological horizon with New Year's, 1909: none of the previous invasions during my day seeming to have sent a delegation my way.

We had just reached the pineapple stage at dinner, which delicious fruit is in the words of Josiah Allen, "One of my favorite beverages,"—when glancing out I beheld a great flock of birds gy-

rating over the snow-flooded stubble west. Dinner for me ended right then and there. He is a poor ornithologist to whom a rare bird or new is not worth a dinner any day. Pineapple juice was no longer nectar. I had lost my appetite. Snatching my field glass I was in full chase after the already vanished flock and overhauled them in a piece of weedy corn stubble where they were feeding on ragweed and grass seed with nervous haste and industry.

There is a unifying will or impulse in most flocks of gregarious birds, as every observer has noted; but this mysterious instinct seemed to be almost wanting in this Redpoll flock which, by estimate, consisted of 250 or 300 birds. This will of the flock was at the mercy of every individual will. If one bird lifted it was sufficient to carry the whole body into the air. Thus it was set like a hair trigger ready to go off at half-cock; and the wavering flight of the individual—for it was wavering rather than undulating as in the Goldfinch—was magnified by the flock so that it went like a wind-blown streamer through the air, like a swirl of leaves or whirl of snow flakes—a carmagnole in feathers. The rush of beating primaries and swift transition of color as the light struck them at varying angles were a delight to eye and ear in the monotony of an unusually desolate winter.

The bulk of this flock proved to be females and immatures, with a sprinkling of males, and I fancied that I could pick out a few—three or four birds that by stronger coloring and slightly larger size might belong to the larger and rarer species; but specimens alone could lay the doubts in the case, and these I unfortunately failed to secure.

It would not be possible to find a more elegant picture than a cluster of males with their dark red caps and white breasts stained with the tint of peach blossoms asway on an old ragweed against the snowy landscape.

Since following the first flock it has been my privilege to battle for hours in the happy, joyous vernal activity of Redpoll life, following them for miles through difficult snows or over the moist sodden ground of January thaws. I saw one flock of a hundred or more divide into two equal bands, one going far west, the other east. Coming up with the latter I beheld it go to pieces utterly. And it is interesting to note in this connection that Redpolls have since been noted by 1's, 2's, 3's, or more, anywhere and everywhere, alone or in company with other birds as if they had really made themselves at home. Thus several came daily to our door-yard with the Tree Sparrow to feed. February 4 appeared our last record, but after the ice storm of February 15-16 two females were seen under our evergreens February 17. Not the severity of the storm but the shortage of food supply over a vast area had sent these and other visitors from the farther north to sojourn with us.

Mr. H. W. Weisgerber saw a flock near Salem, Columbiana county, Ohio, while Mr. Edward Jacob saw a flock near Canton, Stark county, Ohio, and Mr. Edward D. Kimer saw a flock of twenty-five on February 17.

They will probably be generally reported from northern and eastern Ohio.

ERNEST W. VICKERS.

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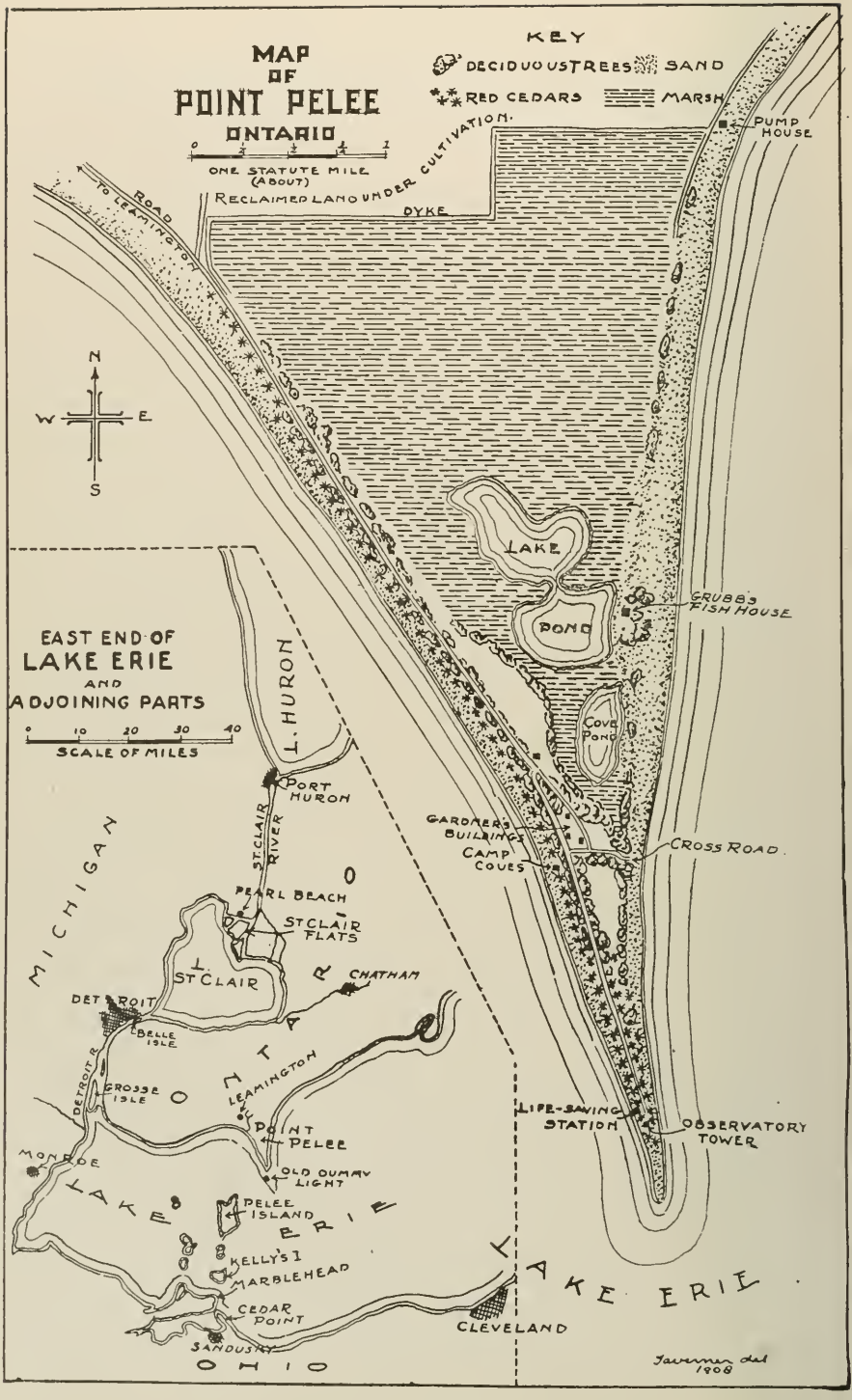
MAP
OF
POINT PELEE
ONTARIO
ONE STATUTE MILE
(ABOUT)
KEY
DECIDUOUS TREES
SAND
RED CEDARS
MARSH
RECLAIMED LAND UNDER CULTIVATION.
DYKE
PUMP HOUSE
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COVE POND
EAST END OF
LAKE ERIE
AND
ADJOINING PARTS
SCALE OF MILES
L. HURON
PORT HURON
ST CLAIR RIVER
GARDNER'S BUILDING
CAMP COVES
CROSS ROAD
MICHIGAN
PEARL BEACH
ST CLAIR FLATS
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CHATHAM
DETROIT
BELLE ISLE
DETROIT R.
GROSSE ISLE
LEAMINGTON
ONTARIO
POINT PELEE
LIFE-SAVING STATION
OBSERVATORY TOWER
MONROE
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THE BIRDS OF CEDAR POINT AND VICINITY.

BY LYNDS JONES.

The place referred to is Cedar Point, Erie county, Ohio. It lies at the west end of a long sand spit which forms the eastern barrier protecting the entrance to Sandusky harbor. The name "Cedar Point" as here used is intended to cover the whole of the seven miles of sand spit, which begins at Rye Beach, some two miles west of Huron, and not merely that portion of it which is occupied by the summer resort grounds.

The territory which is covered by this list includes the topographical quadrangles of Oberlin, Vermilion, Sandusky, and Put-in-Bay and the adjacent islands of Pelee, Hen and Chickens, East Sister, and Middle. Standing at Cedar Point its 'Vicinity' as here used may appear too extensive and much too scattered, but from the standpoint of a study of bird movements this vicinity becomes of vital importance not merely to bring in comparisons with other localities which are topographically very unlike the beach and its accompanying swamps, but more to show the direction of these bird movements.

The beginning of the work upon which this list is based dates back to the autumn of 1890, when the writer began his residence in Oberlin. Previous to this time there had been some good but somewhat scattered work done by Messrs.

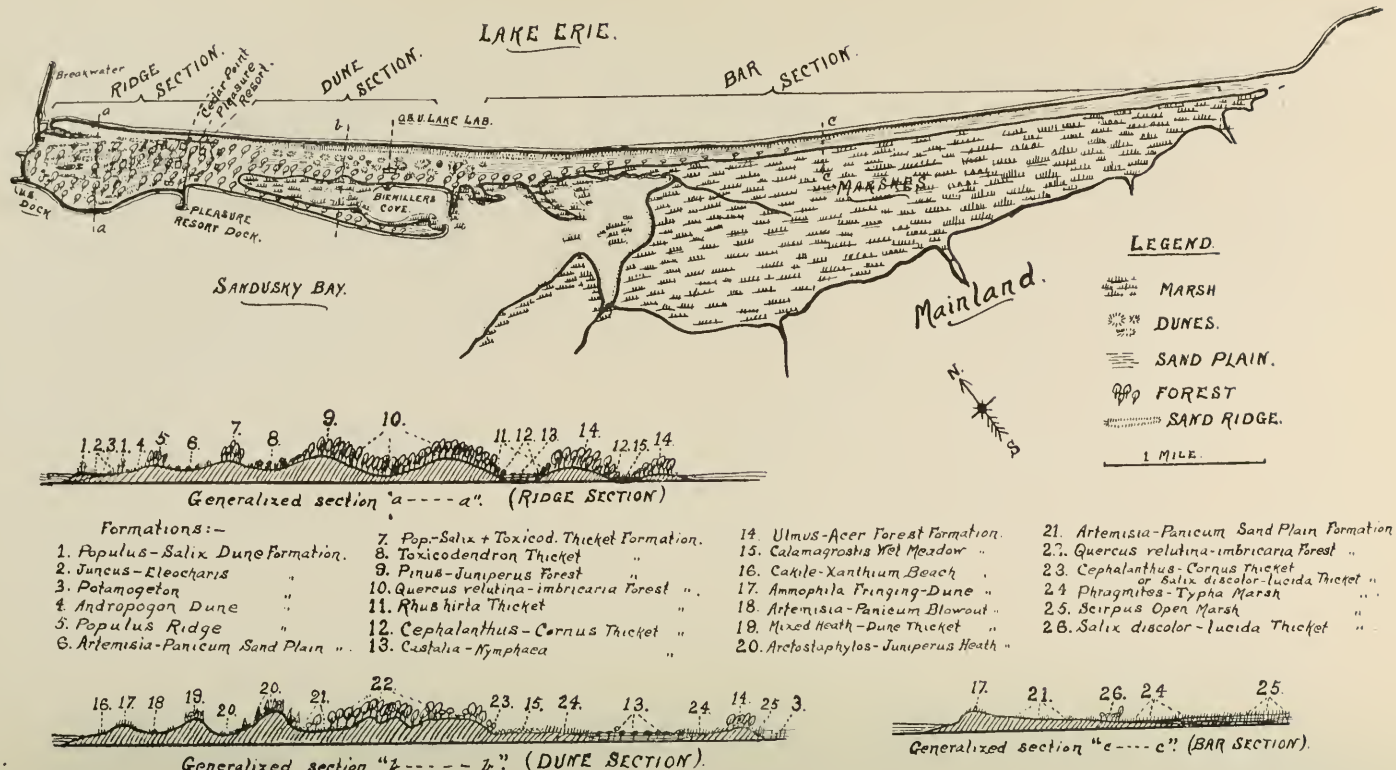

Fig. 1. Generalized ecological map and transect of Cedar Point. The width of the peninsula is relatively exaggerated to better show the vegetational features, and the finer topographic features are only approximately correct. For more accurate details of topography see Moseley's contribution and the U. S. Geological Survey Topographic Map. (Drawn by Otto Jennings.)

L. M. McCormick and George D. Wilder, mostly in the Oberlin quadrangle, and occasional visits to the vicinity of Sandusky had been made by Drs. J. M. Wheaton and F. W. Langdon, but the work done by these latter gentlemen was mostly if not wholly in the Port Clinton marshes. A one day trip was made by the writer to Kelley's, Put-in-Bay, and Green islands on May 28, 1894, and another of similar duration to the same places on May 27, 1901. In company with Rev. W. L. Dawson, August 5 to 9, 1901, was spent among the islands in a rowboat, the purpose being the study of the birds there. On this occasion landings and studies were made on Middle Bass and North Bass, Sugar, Hen and three Chickens, North Harbor, and East Sister. This study was repeated August 24 to 27, 1904. Again from August 26 to Spetember 2, 1905, was spent among the islands, four days of this time being spent on Pelee Island. The next island studies were made in 1908, when a day's visit to Put-in-Bay, and another day's visit to Pelee, the Chickens, and North Harbor, occupied July 11 and 28 respectively. August 17 to 21 were spent on another cruise among the islands, the most of this time being spent on Pelee, and only brief stops on Big and Little Chicken, North Harbor, and the "Rattle" of Rattlesnake. The distinctively Cedar Point work done by the writer has been the whole of July, and part of the last week of June, 1907 and 1908, and studies of from one to four days duration, especially during the winter season and during the migration months. In conducting these studies an effort was made to have them cover all sorts of weather conditions so that they would be representative. The period covered by these studies of the bird life of Cedar Point is eight years, with the stronger emphasis laid upon the work during the last three years. The most extensive studies, covering the longest period have been made in the Oberlin and Vermilion quadrangles.

I have also drawn upon the work of Professors Herbert Osborn, E. L. Rice, and E. L. Mosely and their students, and upon the work of Mr. R. L. Baird, who made special studies of the birds during the summer term at the Lake

Laboratory. The foundation for the list is a card catalogue which has been kindly furnished me by Professor Herbert Osborn, the director of the Lake Laboratory, compiled by himself and by those who have taught with him there during the existence of the Laboratory.

There have been two notable papers relating to the Cedar Point region proper, to which the reader who wishes to learn particulars which cannot be given within the limits of this paper is referred. One is the "Formation of Sandusky Bay and Cedar Point" (here meaning the whole sand spit) by Professor E. L. Mosely, in the Thirteenth Annual Report of the Proceedings of the Ohio State Academy of Science, 1904. From this paper it is made clear that when the lake was at a much lower level than it is at present there was no bay, the Sandusky river flowing into the lake through a narrow channel somewhere lakeward between Marblehead and Cedar Point, and therefore there was no peninsula as now. Cedar Point must have been a ridge of clay, probably underlaid by shale, and the present bay was a depression, but not even a marsh, lying between the higher land now represented by the mainland and this ridge. The changes, or most of them, which have produced the bay and marshes and sand spit have occurred in historic times, being the result of a tilting of the land at the eastern end and consequent deepening of the lake at its western end.

The other paper is "An Ecological Classification of the Vegetation of Cedar Point" (again meaning the whole of the sand spit) by Otto E. Jennings, published in The Ohio Naturalist, Vol. VIII, No. 6, April, 1908, pp. 291-340. To this paper I am indebted for most of the pictures which will accompany this series of articles. The reader who is especially interested in the study of Ecology should not fail to read this exhaustive paper. It is sufficient here to say that bordering the sand spit on the one side are the waters of the lake and on the other, the open waters of the bay, while at its eastern end, for rather more than half of the distance, are the extensive marshes with greater or lesser areas of open water.

The immediate mainland still has remnants of the once dense and heavy forests, alternating with pastures, meadows and plowed fields running to the borders of the marsh. Streams flowing in from the mainland and ridges extending out from the sand spit landward result in numerous coves, some of which are three-quarters surrounded by trees or bushes. Practically the whole extent of the marsh border of the sand spit, down to the water's edge, there is a growth of bushes, mostly willow and button bushes, ranging from a few inches to ten feet high. During the hight of migration these bushes are full of warblers, sparrows, and vireos. Along the narrower reaches of the sand spit, toward its eastern end, cottonwood and willow trees immediately border the marsh fringe of low bushes, only in the wider places being more than straggling individual trees, none of any considerable size. Within the limits of this study many large cottonwood and willow trees which stood on the crest of the ridge have been overturned and washed away at times of high water and the crest of the ridge moved marshward. More of this destructive work has been done near Rye Beach, at the eastern end of the sand spit, than elsewhere. It is clear that here, at least, the lake is pushing the bar back into the marsh at the rate of many feet a year. Along this narrower part of the sand spit wild grape vines abound, and in the fall the abundant supply of ripe grapes calls many birds to the feast. Robins have been found there later than elsewhere in the region under consideration.

As the sand spit widens northwestward large trees, mostly cottonwood, become more numerous just marshward from the crest, with a few clumps of wilows each side of them, then a variable width of grass covered sand, in places reaching a width of more than ten rods, and finally the marsh border of bushes with their fringing smaller trees. Where points of the sand spit reach out into the marsh the bush and tree growth form considerable thickets in which the smaller birds, including the thrushes, woodpeckers, jays and crows, and even the Woodcock and Whippoorwill, find congenial sur-

roundings. Sharp-shinned Hawks are also usually found here, and occasional Crows and Meadowlarks. During the heaviest migrations not only are such places full of all sorts of birds, but they even spill over upon the sand meadows and beach, and fly out into the marsh vegetation. Many strictly wood warblers have often been observed feeding like shore birds near the water's edge on such occasions.

Westward from the mouth of the Black Channel, accompanying the more open waters of the bay proper, the sand spit widens, and for the most part is covered with a more or less dense forest marshward from the crest, with occasional and usually small areas of bare sand or grass covered sand, except in the dune region where the blowouts between the dunes cause many extensive bare sand areas. These forested areas correspond to forested areas of the adjacent mainland, except that the species represented are more numerous, and there are areas of considerable cedar thickets. For a more detailed account of the vegetation the reader is referred to the two papers cited above.

It should be noted that from a width of less than twenty rods at its eastern terminus at Rye Beach the marsh widens and opens westward to its western end where there is open water and a distance of two miles between Cedar Point pleasure resort and the docks of Sandusky, and that the distance westward to Marblehead is considerably farther and across open water. Kelley's Island is plainly visible some seven miles northwestward.

Pelee Island is the largest and most northerly island of the archipelago lying between Sandusky and Point Pelee. Its physical features are strikingly similar to those of the greater part of Point Pelee, but the interior marshes are less extensive now, having been drained and utilized for agricultural purposes. Its southern end closely resembles the southern end of Point Pelee with practically the same vegetation and beach formations. On all of my visits to the island during the autumnal migrations I have found all species of migrating birds ranging southward along or parallel to the east shore

line, none at all along the west side. I regret that no studies have been conducted during the vernal movements.

Middle Island is a verdure covered lime-stone ledge some twenty rods in width by ninety or more rods long, the long axis lying nearly east and west, thus lying directly athwart the south point of Pelee Island, and some four miles distant. There is a border of trees of considerable size and a peach orchard occupies the interior. A light-house stands at its eastern end. The only inhabitants are the light keepers. Here, in late August and early September, warblers of many species were swarming. In 1908 the sand ridge which has been built up at the western end contained many nests of Common Tern. In other years no terns' nests were found here.

Kelley s Island forms the first stepping stone for the northward moving birds, being separated from the headland of Marblehead by a strait of water about three miles wide. Like Put-in-Bay it is a mass of limestone rising out of the lake. Extensive quarrying of the limestone has been in progress for years. There is a fringe of trees everywhere except on the northern exposure, while the western third contains an extensive peach orchard with bordering woods of considerable extent. The highest point of this island is seventy-five feet above the lake level. It is about two miles from Middle Island. This island is a considerable fragment of the mainland, which Mosely says was once clearly a part of the mainland promotory, with probably low or even marshy ground connecting it with Marblehead. Indeed, there are historical accounts of crossing by Indians and others, with only narrow channels to swim.

It would therefore appear that at some time not so far distant these islands were elevated limestone masses of a nearly continuous land barrier connecting Point Pelee with Marblehead. Doubtless also the Bass Island group with the adjacent smaller islands, at the same time were connected with Catawba Island. The Hen and Three Chickens, East Sister and North Harbor seem to form another group of the same nature, with a possible connection with the

Ontario shore through the shoal north of them. Whatever the facts may be it seems clear that at no very ancient date the land masses were much more extensive and much nearer together, and the expanse of water over which the birds must pass to and from the north much less than at present.

I have selected Pelee, Middle, and Kelley's Islands for brief descriptions because they seem to form the most important highway of migration, and because they represent the types of islands forming this archipelago except the gravel islands of Big and Little Chicken, where the Common Terns' nest in great numbers. These small islands are limestone ridges covered with gravel. Big Chicken is an angular island of perhaps two acres extent, with one willow tree (there has been another tree which recently blew down), a mass of gourd vines in the summer, and a small fish house. Little Chicken is a narrow ridge of limestone rock, with outlying ledges of considerable extent on all sides nearly reaching the surface and hence protecting this narrow ridge from storm waves. There are several small willow trees and bushes along the north border, and a dense growth of 'smartweed' each side of the gravel ridge which occupies its center. About a rod in width and fully ten rods in length of this island lies above summer storm waves. Terns' nests are placed as thickly all over this area as it is possible for the birds to sit without serious quarreling.

Put-in-Bay is like Kelley's , but larger and with more woods and fields. It rises to about 69 feet above the lake level at the hotel. Middle Bass is only 11 feet above the lake level, with few trees, but extensive vineyards, and a small pond where King Rails' nests are numerous. North Bass rises twenty-four feet. It has considerable woods and relatively few fields. The related small islands do not present any unusual features.

While North Harbor Island belongs to the type of larger islands it presents some interesting features. It is a limestone ridge trending nearly due north and south, not above ten rods wide by three times that length, covered by a dense growth of deciduous trees, most numerous among which is the hack-

berry, with a few cherry trees and berry bushes. A thick grass grows along the forest-margin and even beneath the trees. On every visit there have been large numbers of nests of Common Tern everywhere except in the middle of the forest. On the 1904 trip to this island numbers of large snakes, presumably 'Black' snakes (*Bascanion constrictor*) were found, and the terns' nests were much fewer than on other visits. This island, if any of the group, would be the one best suited for the nesting of the Herring Gulls, but there has never appeared any evidence of the nesting of these birds on the island, nor on any others of the group. It is true that the gulls have been numerous in this region on every visit, but so are they all summer near the south shore of the lake. It is likely that they are not breeding birds.

The mainland region under discussion lies mostly within the basin of Lake Erie when it was at flood. The oldest and southernmost beach lies about 4 miles north of Oberlin, swinging up the Black River valley to within a mile of a line running through Oberlin east and west, and up the Vermilion River valley to Birmingham. The vegetation of the region is typically Carolinian, and differs little from that of the north shore of Lake Erie. The two rivers mentioned, and the Huron River, have worn deep, narrow gorges well into the shale which underlies the whole eastern part of the region, in places capped with sandstone. Westward and Put-in-Bay quadrangles, the outcropping rock is limestone. All of the streams trend in a general north and south direction. The valley of the Sandusky River is clearly the most important one from a migrational standpoint, connecting, as it does with the head waters of the Scioto. I believe that proof will be forthcoming that one of the main "fly lines" across Ohio, for both vernal and autumnal migrations is this Scioto-Sandusky River-Pelee route. It will be necessary to establish several observation stations from the Ohio River to Point Pelee, including each of the islands in the direct line, to conclusively prove it.

My visits to the northerly lying islands indicate that a

rather weak autumnal movement occurs across North Harbor, East Sister, and the Bass group to Catawba, that a strong autumnal movement occurs along the Point Pelee-Marblehead route, and that there is a desultary westward and southward movement from Pelee Island to the Bass group and from there to Catawba. As to the crossing at other places, notably from Point Pelee directly to the Ohio shore, which Taverner and Swales strongly favor for certain species, I have but one bit of evidence, during the seasons of migration. During a southward movement in the middle of August a patrol of the beach from Rye Beach to the Lake Laboratory, a distance of six miles, yielded 12 Red-headed Woodpeckers, 4 Ovenbirds, 3 Red-eye Vireos, and unidentifiable remains of several other small birds washed upon the beach. The most of these were within three miles of the Lake Laboratory. The night had been cloudy and the wind northwest, brisk. If these birds had been crossing by the island route when they perished in the waters the wind would have drifted them to the place where we found them. If they had been crossing to Huron they would have been driven on the beach near Vermilion where we found none washed up.

During the winter I have often seen Snowflakes and Horned Larks coming from the north, and giving clear evidence of having flown far. In every instance they were flying just above the ice, and tumbled rather than alighted upon the sand of the beach, evidently in an exhausted condition. These winter observations cover the whole line of beach from Lorain to Cedar Point.

The only birds I have seen striking out northward across the lake as if to cross, during the vernal migration, have been the Sharp-shinned and Broad-winged Hawks. I have seen many other species start out boldly, some even lost to sight for a short time, others not venturing so far, but all eventually reappearing and finally giving it up.

I have been unable to secure any hearsay evidence of extensive migrations from the north anywhere along the south shore west of Lorain except in line with the islands. At the

Lorain lighthouse there have been night visitations of migrating small birds of many species, but it has not been possible to prove from what direction they came to the light. While it may be true, as Taverner and Swales affirm, that some birds do cross the lake directly from Point Pelee theirs is the only direct evidence of it. Of course it would not be possible for them to see the birds for any considerable portion of the whole distance between the Point and Huron on the opposite shore, where they would presumably fly, so that the birds might turn westward to Pelee Island after passing beyond their vision. I am strongly inclined to think that exactly this does happen with Purple Martins, all of the swallows and most of the blackbirds, for I have seen them coming to the easternmost point of Pelee Island from nearly due east, then pass down the east shore of the island to the extreme south point of sand, thence across to Middle Island, and when we were between Middle and Kelley's and on Kelley's, they were continuing on to Kelley's. Again, when we were sailing midway between Kelley's and Marblehead the migrating birds were passing from Kelley's to Marblehead. During this same period of movement we also sailed out eastward into the open lake but saw no birds passing anywhere, nor were any arriving anywhere along the Ohio shore from Cedar Point to Lorain although there was a steady stream passing over the island route at the same time.

The only occasion when I have been in a position to check up the work of Taverner and Swales at Point Pelee was on September 17, 1906, when they state[1] that there was a migration of Sharp-shinned Hawks passing down the Point and out across the lake for the Ohio shore. On that date there was no evidence of any arrival of Sharp-shins on this side east of Sandusky nor on preceding or subsequent days as far as I could learn. So large a flight would certainly have been noticed if the birds had crossed directly unless, indeed, they rose to great hights and continued so well inland.

In the absence of direct evidence from co-operative work

[1] Wilson Bulletin, Vol. XIX, p. 93

on both sides of the lake and among the islands any discussion of the routes taken by the birds in their southward movements is too academic to be profitable. I hope that in the next few years some fairly extensive and complete work of this kind may be accomplished and the question settled.

The writer is painfully aware of the shortcomings of this list, but he feels sure that it is wiser to publish it now than to wait until comparisons with the list by Taverner and Swales for Point Pelee would lose value by reason of so great discrepancies in the time covered by the work at the two places. This list should be regarded as preliminary.

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1. *Colymbus auritus.*—Horned Grebe.

An irregular and not often common spring migrant, but usually an abundant fall migrant, when it is found in large companies in the shallow water between the shore and the outer bar on the lake. Relatively few individuals are ever found on the waters of the Bay at any time. Its earliest date of arrival in spring was March 25, the median date being April 16; the median date of departure for seven years is April 21, the latest date being May 17, 1908. The median date of arrival in fall is October 10, the earliest date being September 23, 1907. It usually remains, but in small numbers, until the first severe weather—December 27, 1907. Scattered individuals are found on small inland waters, and on the streams. Occasionally exhausted and starving individuals are found in mid-winter in towns or cities.

When the numbers are so great that large companies are formed there is a perpetual conversational undertone decidedly pleasing in quality, accompanied with a sort of play among the birds. There is usually little concerted action, whether resulting from sudden fright or otherwise, but I have seen a flock of nearly 200 individuals dive almost on the instant.

2. *Podilymbus podiceps.*—Pied-billed Grebe.

A regular and fairly common migrant, but never in such numbers as the last species. A few remain all summer in the marshes and very likely breed there, but I have not yet found birds with their young. At Cedar Point it is just as clearly a bird of the marshes as the last species is of the open lake. Occasionally individuals are seen on the lake side of the sand spit, especially late in the spring migration. The maximum number of individuals forming a company seldom exceeds a dozen, and from two or one to four or five is far

more usual. It is next to impossible to get one of these birds to rise from the water, but they dive on the least pretext, and may remain hidden with only the bill showing for long periods. On the Oberlin Water Works reservoir they often remain for weeks at a time, but seem never to become accustomed to the presence of people on the bank.

The median date of arrival at Oberlin is April 8, the earliest being May 28, 1904. At Cedar Point the median date of arrival is March 19, the earliest being March 16, 1907. They first reach Oberlin about October 1, and the last leave Cedar Point about November 4. At any time during the periods of migration one or two may be found

Fig. 2. The Dune Section, looking southwards from the Lake Laboratory. To the left are the dunes and the blowouts, the lake in the distance. Between the dunes and the bay on the right is the forest strip, here mainly consisting of the *Ulmus-Acer* and *Ailanthus* formations. (Photo by Professor Herbert Osborn.)

on the smallest and most insignificant ponds, where it is an easy matter to make a hand capture, the birds not being able to get under way in flight from so small a water area, and of course unable to escape by diving in a few inches of water.

3. *Gavia immer*.—Loon.

Always scarce, even at Cedar Point, so that migration dates are unreliable. One or two are usually found on the Oberlin Water Works reservoir about the middle of April, remaining from one to

ten days. There was a female there on May 21, 1901. My only fall records are October 22, 1897, and November 4, 1907. This apparent rarity is probably somewhat due to my short and infrequent studies along the lake. But the Loon is scarce at any time of year, and clearly does not breed in Ohio now.

4. *Gavia arctica.*—Black-throated Loon.

The only record of this bird's occurrence within the region is that given by Dr. J. M. Wheaton for Sandusky Bay in the fall of 1880 on the authority of Mr. H. E. Chubb, then of Cleveland, who mounted the specimen.[1]

5. *Uria lomvia.*—Brunnich's Murre.

During the visitation of 1896 four birds of this species were captured at Lorain, three in Sandusky Bay, and others reported from Ottawa county during the last half of December. Professor E. L. Moseley tells me that there were either five or seven in Sandusky Bay in December, 1908, some of which were captured. It appears that the birds do not survive long after reaching the waters of Lake Erie.

6. *Stercorarius pomarinus.*—Pomarine Jæger.

Occurrences of this species are limited to a specimen in the collection of Mr. A. Hengartner, of Lorain, where it was secured, and the one reported in Cook's Birds of Michigan by Professor E. L. Moseley, for Sandusky, October, 1889.

7. *Stercorarius parasiticus.*—Parasitic Jæger.

The records are as follows: Sandusky Bay, September 13 and 20, 1889, and October 6, 1895, E. L. Moseley. Near Sandusky, November, 1895, two specimens taken. F. M. Comstock.[2]

8. *Larus leucopterus.*—Iceland Gull.

One specimen was taken at Lorain, December 22, 1888, and preserved by Mr. L. M. McCormick for the Oberlin College museum. If it occurs with any regularity upon Lake Erie it has thus far passed unnoticed.

9. *Larus argentatus.*—Herring Gull.

In the sense that it is present at all times of year it is a resident if the proviso is added that it does not breed in the region. The birds found in summer are clearly not breeding birds, although some of them are in full adult plumage. During hard winters, when the ice covers the lake extensively, the birds are less numerous and

[1] Geological Survey of Ohio, IV, 1882, p. 565.

[2] The Auk, XIII, p. 171.

are gathered in the vicinity of the cities, or in the regions where fishing through the ice is practiced extensively. Apparently there is always some open water in Sandusky Bay and the marshes, and here I have seen the birds, to the number of fifty, lined up along the the linear openings in the ice which mark a line of decaying swamp vegetation. The gulls appear to spend the night on the ice in the vicinity of such feeding places. After a hard winter there is pretty clearly a northward migration, during which individuals visit the Oberlin Water Works reservoir.

10. *Larus delawarensis.*—Ring-billed Gull.

The presence of this gull all along the lake front has been suspected, but it has not been until the more recent intensive studies at Cedar Point that positive proof of its regular occurrence has been obtained. It is clearly much less common than the Herring Gull. None have been observed in winter, and none during June and July.

11. *Larus philadelphia.*—Bonaparte's Gull.

This is a regular migrant, but is far more numerous during the southward movement than at other times. None have been recorded in July, and almost none in June and August. The migratory movement appears to occur along the river courses and few fly over the regions between. Thus at Oberlin, which lies between the two river courses, only a few scattered individuals are seen, while at Cleveland, and especially at Sandusky, many hundreds pass. In my experience this gull is far more numerous on both sides of Cedar Point sand spit than elsewhere along the lake, and the times of maximum numbers occur between November 1 and December 30. During the last three winters I have found a flock of from 50 to 500 birds ranging along the shores of the sand spit as long as there remained open water, which was well into January. They act much like terns, diving headlong into the water for fish, but can always be readily distinguished from them by the almost sparrow-like conversational notes instead of the harsh *ter-r-r* of the terns. They seem to prefer the vicinity of the lake beach to the marshes for feeding grounds, possibly because small fish are more numerous there. On the occasions when the pent-up swamp waters at Rye Beach have broken through into the lake carrying all sorts of debris upon their floods, these gulls have collected at the place in great numbers, feeding.

The northward migration begins from the first to the middle of April, and all have passed north by the first of June. A few individuals return by the first of September, but the flood does not appear before the first of November. Professor E. L. Moseley states that over 2,000 of these birds were feeding in the waters and marshes east of Sandusky on November 12, 1904.

12. *Sterna caspia.*—Caspian Tern.

Records of this tern are confined to Sandusky Bay and the west half of the sand spit and adjoining marshes and lake. Two were recorded September 13 and 23, 1907, and one May 4 and 12, 1908. They were feeding in the same places, but somewhat apart from the Common Terns. Their greater size was clearly evident.

13. *Sterna hirundo.*—Common Tern.

Common from about May 1st to about October 1st. The only breeding places thus far discovered are upon Big and Little Chicken Isl-

Fig. 3. The Black Channel and the *Phragmites-Typha* Marsh Formation. The forests in the far distance are at the edge of the main land on the other border of the marsh, more than two miles distant. Near here the Bladpates and Scoup Ducks abound on close days. Black Ducks and Mallards feed in the vegetation covered areas near. (Photo by Otto Jennings.)

ands, and upon the reef of Chick when it is sufficiently uncovered by water, upon North Harbor, Starve Island, the gravel ridge at the west end of Middle, and over the top of the Rattle of Rattlesnake Island. There are old reports of nestings upon Gull Island, which has never been above the wave wash since my studies began. It is pretty clear that the nesting places are greatly restricted since the advent of the white man. Hen Island, which is reported as having

been a favorite nesting place, is now inhabited and no terns nest there. As nearly as can be estimated there are probably 3,000 nesting pairs within this region, and perhaps half as many non-nesting birds which range freely over the region. In the region of Cedar Point there have always been considerable numbers during my studies. In late August and early September there have always been considerable numbers of winter plumaged Black Terns about the nesting islands and mingling among the flying Common Terns, adding their protests against the unwelcome visitors.

14. *Hydrochelidon nigra surinamensis.*—Black Tern.

A variable number of Black Terns breed in the marshes. In favorable summers I have counted upwards of twenty pairs, but there are usually not so many. I therefore can hardly agree that it is a "common" breeder, but it is certainly regular. It selects for a nesting region the somewhat open central parts of a considerable area whose margins are thickly grown up with marsh vegetation so that a boat can be pushed across and into the nesting area with much difficulty. The nest is placed on decaying vegetation which is barely more than flush with the surface of the water, many times, perhaps always, as Mr. W. F. Henninger thinks, upon a submerged muskrat house. I have found fresh eggs during the first week of July. The birds are courageous in the defense of their eggs and young, even striking the head of the intruder. The first birds appear in spring near the first of May, and the last have passed south by September 25. During the migrations they are not infrequently seen along the river courses.

15. *Phalacrocorax auritus.*—Double-crested Cormorant.

Only twice have my visits to Cedar Point coincided with the visitations of this species. On April 29, 1907, I found a specimen which fishermen told me had been shot four or five days previously when there were considerable numbers in the region of Cedar Point. On May 13 I recorded one specimen, and again on November 4, at Cedar Point. If fishermen are reliable there is a regular migration of this species across the region of Sandusky not far from the first of May. Moseley reports one on October 7, 1903.

16. *Pelecanus erythrorhynchos.*—American White Pelican.

There are two records for the immediate vicinity of Oberlin. Specimens were not taken but the records were made by persons who are familiar with the species in other places. One was in early May, 1890, the other at the Oberlin Water Works reservoir in the spring of 1897. I have been unable to secure the exact dates.

17. *Mergus americanus.*—American Merganser.

Present on the lake, except during and in summer, the middle of severe winters. It is simetimes numerous enough to be called common, but ordinarily less than fifty individuals are recorded along ten miles of lake front. Immature and female plumages outnumber full adult male plumages about five to one. The decided preference of this species for the open waters of the lake has often been noted. There are very few records of its occurrence in the waters of the marshes. It seems to prefer to feed near the shore.

18. *Mergus serrator.*—Red-breasted Merganser.

This is the commoner one of the mergansers during both migrations, when hundreds are sometimes recorded in a single day, but it is less sure to remain all winter. It is more often found in the marshes feeding in company with other ducks. My migration records, which are not as complete as one could wish, indicate that it arrives from the south about the middle of March, passes north about the middle of May, returns from the north about the first of November, and departs southward again during the cold weather of January.

19. *Lophodytes cucullatus.*—Hooded Merganser.

Its occurrence in the region warrants the tern "scarce." From one to half a dozen individuals are seen each year, but gunners report it as not uncommon during the hight of its migrations. My records indicate that it moves northward from the last week in March to about the first of May, and south during nearly the whole of November, but migration dates are too few to make this certain. I have found more individuals along the rivers than in the marshes and on the lake.

20. *Anas platyrhynchos.*—Mallard.

Mallards reach the marshes at Sandusky about the first of March, or as soon after that as there is much open water; are common during the most of March, thinning out decidedly with the approach of warm weather, and all but stragglers are gone by the middle of April. Individuals are occasionally seen in June and July, but if any breed there is no other evidence than such irregular occurrence gives. The first migrants appear near the first of October, the numbers increase to common during November and most have gone with the first touch of winter. Occasionally a few remain well into January in mild winters. While this may properly be called one of the common ducks at Cedar Point it is by no means as common as the next species. It is more often put up from the vegetation covered parts of the marsh than from the open waters of it. On gunning

days one looks for it on the lake, but at other times it is seldom seen on the lake.

21. *Anas rubripes*.—Red-legged Black Duck, and *Anas rubripes tristis*.—Black Duck.

Sufficient data is lacking to determine the exact status of the two forms, hence the remarks will apply to the undivided species. It is clear that both forms occur, as proved by specimens examined and preserved.

This is the commonest of the larger ducks, if, indeed, it is not the

Fig. 4. The second cove south of Biemiller's Cove. The *Nymphæa advena* Consocies mingled with the *Castalia tuberosa* Consocies. *Typha* in the immediate background and *Phragmites* further back. A type of the feeding ground of Pied-billed Grebes. Black Ducks and Mallards are often flushed from such situations in the early morning. Coots are also found here, and among the bordering vegetation Florida Gallinules may be found in summer. (Photo by Otto Jennings.)

commonest of all ducks. Gunners report "millions" in the hight of the gunning season. Such an estimate appears less extravagant when one realizes that the birds, almost crazed by the constant rattle of the guns, are flying back and forth and up and down, the same individuals reappearing many times in the course of an hour. I have seen many hundreds in a single day, but I doubt if more than a few

thousands are even present on any day. This species may constitute a third of all the ducks on some days. The Black Ducks flush from their feeding places in the swamp vegetation readily. Indeed, it is next to impossible to stalk them to within gun range. They rest on the open waters of the bay, or well out in the lake, where great flocks often blacken its surface. The first arrive about the first of March and the bulk have gone north by the first of April, but a few generally linger even well into May. The first return about October 15, and the numbers reach a maximum within two weeks. There are almost always considerable numbers present until cold weather in late December or early January closes the marshes. In mild winters a good many remain all winter.

22. *Chaulelasmus streperus.*—Gadwall.

An examination of the bags of the hunters usually results in a few specimens of this fast disappearing duck. It seems to be one of the rarest of the ducks now, but I am told that not more than fifteen years ago it was common. I have no reliable migration dates.

23. *Mareca americana.*—Baldpate.

During the spring migrations of 1907, 1908, and 1909, it was one of the more common species of ducks at the Sandusky marshes, becoming common on the 18th, 16th, and 15th of March respectively, and remaining so until May 6, 1907, and April 2, 1908. Of course it flies out to the lake when hard pressed in the marshes, but the greatest numbers have been found on the larger areas of open water in the marshy regions east of the mouth of Black Channel. One need never be in doubt about the identity of this species when the notes are once learned. To windward of large flocks I have heard the mingled notes of the flock at a distance of nearly a mile. On Mondays, when the Ohio game laws forbid shooting, these ducks gather in companies of hundreds on a certain stretch of open water in the marsh and may there be seen courting, playing and fighting, or tipping up while feeding.

The migrations begin with the second general migration wave—in the second week of March generally—and the bulk are gone north by the middle of April. Individuals and even small flocks may remain as late as May 20 (1907). Fall records are entirely wanting from my books. Almost none of these ducks are found far from the marshes, but when they are I have found them singly or in twos on the small field ponds.

24. *Nettion carolinensis.*—Green-winged Teal.

I have only three records, all of which are for the Oberlin Water Works reservoir, as follows: March 29 and October 16, 1899, one

each time; March 27, 1905, one. Gunners' statements are not satisfactory, but they seem to indicate that this teal is scarce at the marshes. I have not seen specimens taken there. Either the numbers have greatly decreased or this is not one of the fly lines of this species.

25 *Querquedula discors*.—Blue-winged Teal.

Judging from actual records only a few pairs breed in the marshes, and none in the inland regions. It is only occasionally common in the marshes during the migrations. The most of my

Fig. 5. In the third cove south of Biemiller's Cove. The *Nelumbo lutea* Consocies mingled in the left background with *Pontederia cordata* Society: the general background being the *Phragmites phragmites* Consocies of the Marsh Formation. Long-billed Marsh Wrens and Florida Gallinules prefer such places. (Photo by Otto Jennings.)

records are of from one to a dozen individuals. Single individuals visit the Oberlin Water Works reservoir during the spring migrations, and occasionally one is seen on the small field ponds inland The Blue-wings mostly remain away from groups of other species, feeding in the vegetaion covered areas of the marsh, from where they do not rise readily.

Oberlin migration dates are for arrivals April 21, departures May 4, Cedar Point arrivals March 30, bulk departures April 25. The last seen in 1907 was November 19.

26. *Spatula clypeata.*—Shoveller.

Another relatively uncommon species. On April 6, 1902, and September 25, 1899, there were visitations to the Oberlin Water Works reservoir. Small companies are usually seen at the east end of the marshes during late March and early April. Dates of occurrence are too few and too variable to indicate the times of migration. Gunners report it as regular but scarce at both seasons. The evidence seems to point to a marked decrease in numbers during recent years. My experience with it has been that it prefers small areas of open water in the narrower parts of the marsh.

27. *Dafila acuta.*—Pintail.

This is still a common duck in the migrations, but its numbers are certainly decreasing. Up to 1900 numbers were regularly recorded in their passage across the country almost anywhere, but since that time practically none are seen except in the marshes. There are days when this is the commonest of the ducks, but the periods of such abundance are short. Small flocks have visited the Oberlin Water Works reservoir early in the morning, but left with the first signs of the awakening of the populace. They are nervous and wary always, but doubly so after a short experience with the gunners at the marshes. They are usually seen in the companies which are made up of Baldpates and Lesser Scaups, with a few others, in the middle of an extensive open area near the mouth of Black Channel, or farther west in the open Bay, where the vegetation reaches the surface.

My earliest spring record is February 22, 1908, following a mild winter, and the latest spring record is April 29, 1907. Fall records are September 25, 1899, to November 26, 1907.

28. *Aix sponsa.*—Wood Duck.

My experience with this duck in this region indicates that the minimum numbers were reached from 1899 to 1901, and that since the latter year it has been increasing perceptibly. During the three years mentioned none were seen. In 1902 four were seen; none in 1903; but since then it has been of regular occurrence. Taxidermists report a marked increase in the number received, and gunners speak of an increase. While no nests have been found there is every other reason for believing that a few pairs breed within the limits of the region. Stringent laws for the protection of this duck have proved of little avail.

THE FALCONES OF NORTH AMERICA.

BY REV. W. F. HENNINGER AND LYNDS JONES.

The reason for this proposed series of papers lies back of numerous personal requests from bird students who find the group difficult, especially in field identification, that something might be attempted in the way of descriptions to make the task easier or more certain. In presenting this first paper the writer (L. J.) does not feel any confidence that much has been done toward that end, for the reason that there is so much variation in color pattern within the species that anything less than a series of exceptionally well executed color plates must fail of giving a satisfactory impression of the species. In fact, one must needs spend a good deal of time with each species, scrutinizing every characteristic of flight, feeding habits, voice, — life history, in order to feel much certainty about some of the species. This first paper is presented at this time with a view to ascertaining whether enough is accomplished toward the ends desired to warrant a continuance along the same line, or whether changes ought to be made, and what changes. The authors therefore solicit criticisms and suggestions from every source.

It has been deemed best to present photographs of actual specimens rather than line drawings or made up pictures, giving in the pictures only the parts that are important in field identification. It is gratuitous to say that the difficulties of this method have not been fully met.

The arrangement of the species does not copy any method, but is one which, in the working out of the scheme, seems to the authors to be the most natural one. It is only fair for the writer (L. J.) to say that both the final arrangement and the most of the descriptive matter is the work of Mr. Henninger, to whose untiring energy the work is largely due.

FALCO ISLANDUS (*Brünn*).

WHITE GYRFALCON.

Geog. Distrib.

Arctic regions, including Arctic America and Greenland, accidental in British Columbia, Maine, Toronto; north to 81°55′; breeding in northern Greenland, Bering Island (lat. 55°), Ungava Bay Labrador, Tuxsuk River, Alaska.

Measurements.

Male; length 59.87 ctm; extent 129 to 140 ctm; wing 37 ctm; tail 23.61 ctm; tarsus 5.53 ctm; middle toe 5.05 ctm; culmen 2.34 ctm.

Female: length 59.80; wing 39.80; tail 25.38; tarsus 6.12; middle toe 5.32; culmen 2.59.

Diagnostic Marks.

Thighs and lower tail coverts pure white. Prevailng color of plumage white. Large size.

Plumage.

White, often pure, usually with dark markings. Adult: Top of head and neck narrowly streaked with dusky, upper parts more or less transversely spotted or barred with slatish dusky, lower parts no well defined markings.

Young: nestling like adults (Chapman, Auk XVII, p. 387).

Flight and Habits.

Flight elevated, rapid beats then a short sail. Bold, strikes its prey with bullet-like swiftness (Authors) — "endurance greater than swiftness, rather slow." (Kumlien)—sitting like a Tern; carriage otherwise noble and striking; shy; attacks the Bald Eagle; molested by the Raven; living mostly in pairs, seldom gregarious. Formerly much used in falconry. Migrates at times.

Food.

All kinds of sea-birds, as auks, gulls, murres, sandpipers;

also rabbits, lemmings, hares, ptarmigans.

Voice.

A piercing, almost thrilling scream, "gyak."

Nest.

On inaccessible cliffs, in close vicinity of breeding waterfowl; composed of sticks, lined with moss, hay, hairs and feathers.

Eggs.

Laid end of May and in June, 2 to 4—60 x 48 mm 59.5 x 46.5 mm (Bendire); 60.45 x 43.8 mm (Davie); reddish white ground color marked with varying shades of red; texture rough.

Time of incubation unknown.

FALCO RUSTICOLUS (*Linn*).

Gray Gyrfalcon.

Two subspecies are included under this specific heading: *Gyrfalco*, (Linn.) the Gyrfalcon, and *obsoletus*, (Gmel.) the Black Gyrfalcon.

Geographical Distribution.

Gray Gyrfalcon: northern parts of the Arctic Region (except Norway and Sweden), breeding everywhere; occassionally south in winter to the Northern United States, British Columbia, Wisconsin.

Gyrfalcon: northern Europe, and in America from Labrador and Hudson's Bay to Alaska.

Black Gyrfalcon: coast of Labrador south to Canada, Maine, Rhode Island, and New York.

Measurements.

Gray Gyrfalcon: Male; length 52.32, wing 35.86, tail 21.67, culmen 2.29, tarsus 6.17, middle toe 5.03.

Female: length 59.69, wing 40.13, tail 24.77, culmen 2 54, tarsus 6.24, middle toe 5.23.

Gyrfalcon: Male; wing 34.42, tail 21.67, culmen 2.29, tarsus 5.99, middle toe 5.00.

Female: wing 39.37, tail 24.49, culmen 2.59, tarsus 6.32, middle toe 5.33.

Black Gyrfalcon: Male; wing 36.32, tail 21.97, culmen 2.29, tarsus 6.12, middle toe 4.92.

Female; wing 39.80, tail 24.94, culmen 2.59, tarsus 6.68, middle toe 5.33.

Diagnostic Marks.

Lower tail coverts always streaked with dusky (in contrast with *islandus*), upper parts with white never prevailing; lighter colored (but darker than *islandus*) is Gray Gyrfalcon, darker is Gyrfalcon, and the darkest form is Black Gyrfalcon.

Color Pattern.

Adult: Top of head much streaked with white, upper parts barred with blackish and grayish or buffy white, tail with sharply contrasting bars of light and dark, nearly equal in width; thighs and flanks always barred with some dusky.

Young: With much whitish above in spots, below with the dark stripes narrower than the white interspaces.

The Gyrfalcon has the head more dusky and the whole plumage with more extent of the dark markings.

The Black Gyrfalcon is still darker, with the darker markings prevailing so that the under parts appear dark.

Flight.

Apparently not distinguishable from that of the White Gyrfalcon.

Food.

Sea birds, ptarmigans, waders, rabbits, hares, squirrels, lemmings, mice.

Voice.

Ky ak, ke a, ke a, ke a, increasing in rapidity.

Nest.

On ledge of cliffs, on the sides of ravines, and similar places, also in the tops of tall trees, usually pines, composed of sticks and small branches, lined with moss, hay, hair, feathers, etc.

Eggs.

Three or four, laid from May 10 to the middle of June. Texture rough. Ovate. White or creamy ground color which is scarcely distinguishable beneath the spots and blotches of various shades of reddish brown, clay and fawn color, the markings are small. Size 59.5 x 45 mm (*gyrfalco*), 57.4 x 45.1 mm. (*obsoletus*) (Bendire).

FALCO PEREGRINUS (*Tunst*).

Peregrine Falcon.

Three forms are grouped under this heading, according to the latest ruling of the committee on nomenclature. These are the Peregrine Falcon, with scientific name as above, *F. p. anatum* (Bonap.), Duck Hawk, and *F. p. pealei* Ridgway Peale's Falcon.

Peregrine Falcon: Eastern Hemisphere, Greenland.

Duck Hawk: North and South American south to Chili (as the name *peregrinus* is intended to indicate, a great wanderer); breeding locally throughout the United States, Labrador, Hudson's Bay, and British Columbia.

Peale's Falcon: Pacific Coast from Oregon and Washington to the Aleutian and Commander Islands, this also forming the breeding range.

Measurements.

Peregrine Falcon and Duck Hawk: Male, length 42.72, wing 31.07, tail 17.46, culmen 1.96, tarsus 4.42, middle toe 4.92.

Female, length 48.79, wing 36.27, tail 20.85, culmen 2.41, tarsus 5.31, middle toe 5.41.

Peale's Falcon: Male, wing 32.89, tail 17.15, culmen 2.13, tarsus 4.92, middle toe 4.85.

Female, wing 37.23, tail 19.91, culmen 2.44, tarsus 5.48, middle toe 5.41.

Diagnostic Marks.

Black moustache, bluish-gray back, long pointed wings, swift flight.

Color Pattern.

Adult: top of head deep black, darker than the back, which is bluish ash, underparts cream color forward, buffy backward; spotted with tear shaped or crescentic black or dark marks forward running into bars backward.

Young: ground color of lower parts ochreous with sooty brown stripes where the adults have crescentic marks and bars; upper parts sooty brown.

Peregrine Falcon is more marked below, Duck Hawk less so or immaculate, while Peale's Falcon has the color of the top of the head the same as the back, and usually more heavily marked below.

Flight and Habits.

These are bold birds, seeming to have little fear of man, indeed daring to dart in and snatch the bird just killed almost from beneath the hunter's hand. The flight is almost incredibly swift when prey is being pursued. At times soaring and rising to great heights is practiced. At the nest these birds are noisy and shy, at other times usually quiet. They become attached to certain localities.

Food.

Almost any birds up to the size of ducks and grouse, hares, poultry, dragon-flies.

Voice.

Ka yak, ka yak—kea kea. Often a cackling noise.

Nest.

On cliffs or in the hollow limbs of very tall trees. Nest

composed of a few bits of twigs, rotten wood, with a little moss, wool, or feathers.

Eggs.

From three to five, laid from March to July, depending on the latitude. The eggs are rounded ovate, creamy white or buffy, spotted with cinnamon brown, reddish brown, or chocolate. Size about 52 x 42.2 mm. The eggs vary greatly in color and size. Incubation lasts about 28 days, both parents sharing.

FALCO MEXICANUS (*Schleg*).

PRAIRIE FALCON.

Geographical Distribution.

United States, from the eastern border of the plains, and from the Dakotas south into Mexico; casual eastward to Illinois. Breeds throughout the United States range.

Measurements.

Male: Length 43, wing 30.86, tail 17.15, culmen 1.97, tarsus 4.45, middle toe 4.86.

Female: Length 48.26, wing 35.24, tail 20.19, culmen 2.35, tarsus 5.53, middle toe 5.46.

Diagnostic Marks.

A blackish patch on the side of the throat, distinctly streaked under parts, and a gray-brown back. Strong, quick, dashing flight.

Color Pattern.

Adult: Top of head sooty black, or deep black, distinctly darker than the back: under parts varying from pure white to creamy buff, distinctly but not heavily marked with blackish, rarely unmarked below.

Young: Lower parts more buffy and striped with dusky, upper parts with the colors obscured by brownish edgings of the feathers.

Flight.

Strong, easy, straight-away flight; swift, dashing descent for prey. It is doubtful if any other bird of prey is its equal in flight.

Food.

Birds of various kinds, up to the size of a meadowlark; rabbits, rodents of various sorts. They seem to prefer bird flesh, but during a scarcity of such diet may be driven to any of the smaller animals.

Nest.

On the ledges of cliffs or precipices, rarely in open nests in trees. The ledge nests seem to be merely detritus and food leavings. Open nests in trees must necessarily be composed of twigs or weeds or other coarse material, whether placed there by bird or simply utilized after the departure of the original builder.

Eggs.

Three to five. The nesting time varies from late March in its southern range to early June northward. The eggs are on the average lighter in color than the eggs of any other Falcon except the Sparrow Hawk. The ground color is creamy white, rarely so completely overlaid as to be obscured. The markings are blotches and spots of different shades of reddish brown, tawny, and chocolate. The eggs average 53 x 41.5. (*Bendire*).

Next to the Sparrow Hawk this is the commonest of the hawks of the western regions. Without doubt it is harmful, at times markedly so, but there is little doubt that it is also beneficial to a considerable degree. It has been known to kill Sharp-tailed Grouse. It seems to decidedly prefer the flesh of birds.

FALCO COLUMBARIUS *(Linn)*.

PIGEON HAWK.

Under this chapter are three races which have been given recognition. The extreme northwestern form, which is the darkest one is *F. c. suckleyi (Ridgway)* Black Merlin; the eastern form is typical *columbarius,* Pigeon Hawk, and is the median form, while the form occupying the middle western parts of the country, but ranging to the Pacific coast is *F. c. richardsonii (Ridgway)*, Richardson's Merlin, it being the lightest, in conformance to its more desert habitat.

Geographical Distribution.

Pigeon Hawk, occupies the whole of the eastern part of North America east of the Rocky Mountains, breeding chiefly north of the United States, wintering south to northern South America; less common west of the mountains.

Black Merlin, is confined to the Pacific Coast region from northern California to Sitka, Alaska, ranging eastward in Washington and Oregon.

Richardson's Merlin, occupies the interior of North America, from the Mississippi River westward to the Pacific Coast, from the Saskatchewan region to Texas, Arizona, and Mexico.

Measurements.

Pigeon Hawk: Male; length 27.24, wing 17.80, tail 13.11, culmen 1.24, tarsus 3.43, middle toe 3.05.

Female: Length 31.81, wing 21.59, tail 13.72, culmen 1 45, tarsus 4.01; middle toe 3.42.

Black Merlin: Male; wing 19.76, tail 13.46, culmen 1.57, tarsus 3.30, *(Mrs. Eckstorm)*.

Female: Wing 21.25, tail 14.60, culmen 1.47, tarsus 3.94, middle toe 3.50, *(Ridgway)*.

Richardson's Merlin: Male; length 27.94, wing 20.24, tail 12.95, culmen 1.40, tarsus 3.76, middle toe 3.20.

Female; length 32.51, wing 22.73, tail 15.27, culmen 1.45, tarsus 3.45, middle toe 3.10.

Diagnostic Marks.

These are small, very dark hawks, heavily streaked with umber brown on the under parts, of swift flight, and sharply pointed wings which seem to reach forward to grasp the air.

Plumage.

Pigeon Hawk: Adult male; above dark slaty blue, with rusty edges and black shafts to the feathers, below whitish tawny, heavily streaked with dark umber brown which runs into bars on the flanks, and into fine pencilings on the throat and cheeks. Inner webs of the wing quills spotted or barred with white, outer webs with traces of grayish. Tail with four narrow white and four black bars, its tip white.

Adult female and young male: above dark umber brown, head with rusty edgings; below darker than the adult male. Wing spots and bars ochreous.

Black Merlin: Distinctly darker in general coloration.

Richardson's Merlin: Distinctly lighter in general coloration. Tail crossed with five blackish dusky and six bluish-gray bands.

Flight and Habits.

In flight the swiftest of the small hawks. When perched it sits erect and is alert, but seems less wary than most hawks. At its nest it is courageous and a fierce fighter.

Food.

Principally small birds, rarely mice and small squirrels.

Voice.

"Ke-ah, ke-ah, ke-ah," often repeated.

Nest.

In holes in trees, on cliffs, or in crotch of a tree. The nest is a bulky affair of sticks with a lining of soft bark, long hairs, dry grass, feathers, and moss. It sometimes fits an old crow nest over.

Eggs.

Four or five, varying greatly in form and markings, aver-

aging 41.31 mm.; creamy white, spotted with reddish, cinnamon, or chocolate, with a few heavier spots of the same colors. The eggs are laid in March to June, depending upon the latitude. Incubation lasts about 22 days.

FALCO ÆSALON (*Tunstall*).

Merlin.

Geographical Distribution.

Europe, Asia, Africa. Accidental at Cape Farewell, Greenland (May 3, 1875).

Measurements.

Male: Length 27.96, wing 19.62, tail 13.21, culmen 1.19, tarsus 3.58, middle toe 2.92.

Female: Length 33.65, wing 22.43, tail 15.67, culmen 1.37, tarsus 3.71, middle toe 3.13.

Diagnostic Marks.

Above bluish-gray, beneath rusty with brownish stripes; black subterminal bar of closed tail. Flight.

Plumage.

Adult male: Upper parts bluish-gray with fine black shaft streaks, hind neck spotted with whitish and buffy, tail with 6 or 7 concealed black bands, tipped with white; cheeks with a distinct 'moustache.' Below light rusty streaked with brownish.

Adult female: Upper parts brownish, top of head with black streaks; tail with about eight narrow pale bands; lower parts more whitish or buffy with brownish streaks.

Flight and Habits.

A bold, swift and graceful hawk; hunts in pairs; is fond of soaring high in the air at times.

Food.

Mostly small birds, occasionally locusts and beetles.

Voice.

Ke ke ke ke, ki-ha, ki-ha.

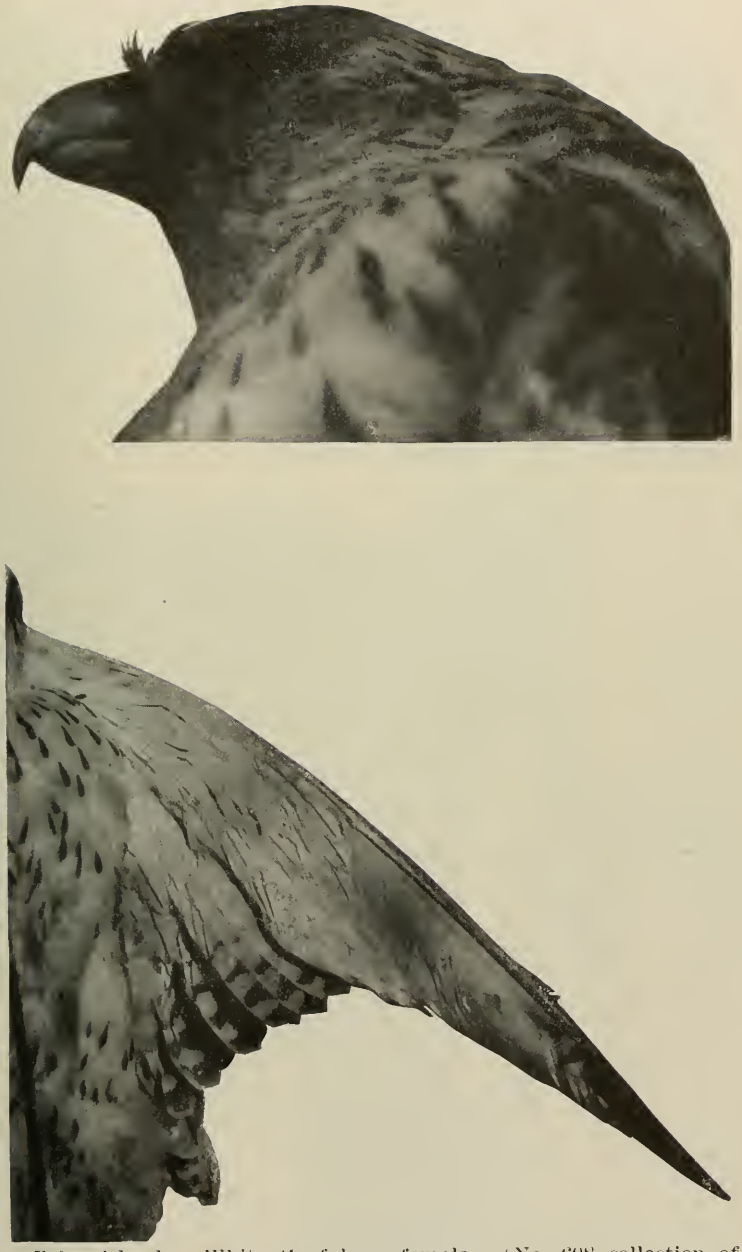
Nest.

On ledges of cliffs, in trees, even on the ground; made of sticks, lined with moss, dry grass, and feathers.

Eggs.

Three to six, laid in late May or June. 38 x 30 mm. Cream or clay-color, with many spots of reddish brown and blackish-brown, often entirely obscuring the ground color. Only one brood is raised.

Falco islandus, White Gyrfalcon, female. (No. 608 collection of W. F. H., February, 1906, Kangek, near Goothab, Greenland.)



Falco islandus, White Gyrfalcon, female. (No. 608 collection of W. F. H., February, 1906, Kangek, near Goodhab, Greenland.)

Falco rusticolus, Gray Gyrfalcon, female. (No. 607 collection of W. F. H., October 29, 1905, New Herruhut, Greenland.)

Falco peregrinus anatum. Duck Hawk, old male. (No. 624 collection of W. F. H., ugust 11, 1904, Cameron Co., Texas.)

Falco columbarius, Pigeon Hawk. (No. 520 collection of W. F. H., April 10, 1895, Cameron Co., Texas.)

Falco asalon, Merlin. (No. 615, collection of W. F. H., November 30, 1902 Wladikawas, Russia.)

Falco mexicanus. Prairie Falcon, male. (No. 3154 collection of Oberlin College. W. L. Dawson, April 3, 1896, Chelan, Wash.)

SOME WASHINGTON BIRD NOTES.

BY DR. R. W. SHUFELDT.

For the past seven years, and more, I have been residing in the city of New York, engaged upon special art and medical work which afforded me but little opportunity to see much of the birds anywhere. Prior to that time I had been living in Washington, D. C., where both autumnal and vernal migrations were always carefully studied by me for miles about, and there was no question in my mind, the last few years that I was here, as to the fact that both land and water birds were rapidly decreasing in numbers. Some species were rarely or ever seen, either in the spring or in the fall. Several papers were published by me on the subject, and some of the probable causes for the falling off given, one of which I remember was the killing by boys by means of an air-gun which was very popular at the time with them. Recently I have returned to Washington to live and taken a home within three or four minutes walk of the Zoological Garden (3356 18th St.). It is practically surrounded by open country and extensive tracts of heavy timber. After becoming settled, which required several weeks, I discovered that Mr. Robert Ridgway owned his home across the street, and was at the time away on a vacation in the west.

The spring migration of birds had just about commenced, and it was not long before I made very early morning visits to the neighboring woods to note what species were here and especially as regards their abundance (April 10, May 12). Judging from the chorus that saluted my ears before arriving, they had not been wiped out altogether, and as I had not had such a treat for many years, my feelings may be easily imagined by any thorough-going ornithologist who has ever been submitted to a similar term of starvation of that character.

Great was my delight when I discovered that a very marked change had taken place during my years of absence, for not only had birds become numerous again, but were evidently

less wary, and an unusual increase had taken place in some species. For instance, judging from my own personal observation, such a bird as the Red-headed Woodpecker *(Melanerpes erythrocephalus)*, ten years ago was one of the most uncommon species to be taken in the District of Columbia anywhere. The other morning when I was out (May 13, '09) I counted twelve of these beautiful birds in a short walk of a little less than five miles, and heard others calling in the distance. Cardinal Grosbeaks *(C. cardinalis)* were very abundant and the males in beautiful plumage, while in a beech tree close to my home there was a flock numbering over an hundred Purple Finches *(Carpodacus purpureus)*. All the common birds were in full force, such as Robins, Brown Thrashers, Catbirds, Flickers, and any number of others. What interested me more than anything else was to observe the abundance of warblers that were on. They were not as plenty as I used to see them forty-five years ago, but they were nevertheless very largely represented.

In one straggling troop that were feeding as they passed through some large and adjacent trees, I noted several pairs of Blackburnians *(D. blackburniæ)*, ditto Black-throated Blues and Greens *(D. cærulescens, D. virens)*, also many Parulas, Cape Mays, Chestnut-sided, Bay-breasted, Blackpolls, with numerous others, and one Cerulean *(D. cærulea)*. In other parts of the woods and along the roadside they were equally abundant, and associated with still other species. (There is a pair of superb Red-headed Woodpeckers within thirty feet from my study window as I write these lines and they are nesting not over that many yards from my table.)

In a few days I shall look up the Water Birds, and hope to meet with an equally gratifying state of affairs in their case. Later on in conversation with a number of the best authorities and observers who have paid attention to the ornithology of the District of Columbia for many years, I was pleased to learn that the facts set forth in this brief communication were quite true.

ROUGH-LEGGED HAWK NOTES.

BY W. E. SAUNDERS.

This is a bird that is not often seen by any one but a duck hunter. Once or twice I have had good opportunity of watching this bird for a little while and a certain Autumn day showed one hovering after the manner of the Sparrow Hawk, over a stumpy field where there were not enough trees to afford a perch at the desired spot. To my mind this was a hint that the Hawk had nested in a prairie country where he had accustomed himself to that method of hunting. How these Prairie Hawks must welcome the advent of railroads with its telegraph poles! I can easily imagine that the large numbers of Swainson Hawks, which I saw in my first trips West in the nineties, were really attracted to the railroad by these perches. Before then, the dry prairies must have been hunted almost exclusively on the wing which is contrary to the nature of the Buteo as noticed in the east. Twice in the spring, about the 26th of March, I have seen two or more of these birds, not far apart, near London, but on dismounting from my wheel to watch them, although I got behind a snake fence and used my glass through it, the bird soon flew away, calling once or twice with a note very similar indeed to that of the Red-tail.

In my list of average dates of arrival in the Autumn, which I have compiled from notes extending over twenty-five years, I have a memorandum on October 29th,—"this is the day to see Rough-legged Hawks," but it was only this Fall that I found out *where* was the *place* to see them. This was on November 2nd, 1908, when Mr. J. S. Wallace and I were near the end of Point Pelee. About the middle of the morning we saw the first Rough-leg. He was circling over a field after the manner of a migrating Broad-wing and drifting south at the same time. Soon he ceased circling and flew past so near us that his markings could be seen very plainly. On the way to camp that morning we saw a number of others but it was not until after dinner that they really appeared in numbers. I was sitting

outside preparing some birds for our drive to the station that afternoon, when I noticed a Hawk at a considerable distance and very high. After a few moments others began to arrive. They kept coming until there were about twenty-six in sight at once and the resemblance between their methods and those of the Broad-wing was very striking. As they reached the location where the leader had chosen to circle each one spread his tail as does the Broad-wing, and joined the circling band. This continued until the Hawks got so numerous that I had thirteen at once in the field of my glass. They were, I should say, half a mile high, so distant that it was almost impossible to say whether they were Red-tails or Rough-legs. At intervals one heard the Red-tail call, but I am not one that can distinguish between the cry of these two birds. After awhile they began to straggle off towards the south but the day was pleasant and those circling apparently disliked to leave the Point. Doubtless, they could readily see the Ohio shore and the Islands between, and they were certainly not, as many others, birds who seem to fear the flight over the water, but the main body so persistently refused to leave their playground that after awhile others came drifting back from the south and joined them once more, and it was on some of these travelers that I had the opportunity of deciding definitely that they were Rough-legs and not Red-tails.

Of course the probabilities all pointed to Rough-legs. We had seen Red-tails in numbers before, but never acting like this. Moreover, on that particular day more Rough-legs had been seen, prior to this circling band, than Red-tails, so that I was confident that when an opportunity occurred to make their identity positive, the verdict would be Rough-legs. The results of several such opportunities were alike, each one proving as I had expected to be a Rough-legged Hawk, so that I had no hesitation in deciding that these strange acting hawks were all of that species. On this day we saw about 40, a number approximately equal to all that I had ever seen in Ontario before and the finding of such a large number was very unexpected, but Point Pelee is a place that demonstrates

the truth of the old adage, that "It is the unexpected that happens."

SPRING MIGRATION IN MIDDLE WESTERN OHIO.

BY W. F. HENNINGER.

This spring in many respects resembled the wet season of 1907. Birds that usually appear by the middle of April not showing up till late in May, cold waves driving back to unknown regions some of the earlier migrants, for instance the Chimney Swift came on April 24th, 6:30 P. M. and stayed that day till the evening of the 25th, when they disappeared till May 3rd. May 5th and 6th were the only dates on which the more tender birds arrived in great hordes; the ducks and water-birds seemed to be in no way affected by the weather in their migrations. Some interesting and early records were made. I give the list of 140 migrants according to first dates and individuals with some annotations:

February 20—Robin 2.

February 22—Killdeer 1.

March 1—Bewick's Wren 2. Bluebird 2.

March 5—Bronzed Grackle 4.

March 6—Loramie reservoir — Mallard 5. Red-legged Black Duck 1.

March 8—Towhee 2. Phoebe 1. Field Sparrow 2. Red-winged Blackbird 5. (March 9—Dawson's earliest record, perhaps earliest state record.) Pintail 5—shot, American Merganser 1,—Loramie reservoir.

March 16—At Canal (Miami)—shot. American Golden-eye 7. Shoveller 1. Pied-billed Grebe 1. American White Pelican 3 on a ditch in the field five miles west of New Bremen. (An early record and one of the few spring records in this state).

March 19—Vesper Sparrow 3. Turkey Vulture 4.

March 20—Lesser Scaup Duck 1—Loramie reservoir—shot.

March 24—Loramie reservoir — Green-winged Teal 2. Baldpate, 2 females—shot. This agrees with my dates in Southern Ohio and is earlier than those for Oberlin and Northern Ohio. Pectoral Sandpiper 4. Early record.

March 25—Wood Duck 6—Loramie reservoir.

March 26—Chipping Sparrow 2.

March 27—Hooded Merganser 2—shot. Scaup Duck 8—Loramie reservoir.

March 28—Grand Reservoir—Woodcock 1. American Coot 10.

March 30—Horned Grebe 1.—Canal.

March 31—Mourning Dove 2. Great Blue Heron 1—Shelby county.

April 1—Grand reservoir—Wilson's Snipe 1. Tree Swallow 3. Herring Gull 5. Bonaparte Gull 2.

April 3—Barn Swallow 1.

April 5—Purple Martin 2—Late date.

April 8—Loramie reservoir—Blue-winged Teal 10. Ruddy Duck 4. Ring-necked Duck 1.

April 10—Brown Thrasher 1. Olive-backed Thrush 2. Hermit Thrush 1.

April 14—Bufflehead 2—shot—Canal—late. American Pipit 7. Northern Shrike 1—last date. Tree Sparrow 2—last date. Pigeon Hawk 1. Yellow-bellied Sapsucker 1.

April 15—Ruby-crowned Kinglet 2—Staid till May 15.

April 16—Grasshopper Sparrow 2. Savanna Sparrow 10. Red-breasted Merganser 10—shot—Loramie reservoir.

April 17—Black-crowned Night Heron 10—shot—Loramie reservoir. Early state record.

April 18—White-crowned Sparrow 2.

April 19—At the Grand reservoir—Least Sandpiper 1—shot—earliest state record. Greater Yellow-legs 16—1 shot. Bartramian Sandpiper 2. American Bittern 1—shot. Spotted Sandpiper 9. American Golden Plover 25. Last Winter Wren seen. House Wren 3. Louisiana Water-Thrush 2. Last Fox Sparrow. Sora 2. King Rail 2. Common Tern 13. Black Tern 3. Swamp Sparrow 3. Rough-winged Swallow 3

April 20—Marsh Hawk 2. Rusty Blackbird 5.—lasts.

April 24—Chimney Swift 6.30 p. m. sharp.

April 25—Oven-bird 2.

April 28—Blue-gray Gnatcatcher 3.

April 30—Baltimore Oriole 4. Yellow Warbler 6. Catbird 1.

May 3—Black-throated Green Warbler 2. Black-throated Blue Warbler 1. Slate-colored Junco 5—Last date. Bobolink 3—5 p. m. sharp.

May 4—Red-eyed Vireo 3. Orchard Oriole 1.

May 5—Warbler Day: Kingbird 2. Myrtle Warbler 1. American Redstart 2. Black and White Warbler 1. Wilson's Thrush 1. Semipalmated Sandpiper 4.

May 6—Migration at its hight—Birds in swarms. Water-Thrush 1. Blue-winged Warbler 3. Golden-winged Warbler 2. Orange-crowned Warbler 1. Tennessee Warbler 10. Blue-headed Vireo 2. Gray-cheeked Thrush 20. Scarlet Tanager 7. Yellow-legs 1. Northern Yellow-throat 5. Yellow-breasted Chat 2. Chestnut-sided Warbler 3. Blackburnian Warbler 50. Magnolia Warbler 2. Green Heron 2. Cliff Swallow 2. Yellow-billed Cuckoo 2. Black-billed Cuckoo 2.

May 7—Cape May Warbler 2.

May 10—Wood Thrush 3. Least Bittern 5. Long-billed Marsh Wren 20.

May 12—Bay-breasted Warbler 5. Black-poll Warbler 2. Dickcissel 1. Whippoorwill 2. Nighthawk 1.

May 14—Indigo Bunting 1.

May 15—The laggards coming in: Nashville Warbler 10. Green-crested Flycatcher 2. Least Flycatcher 2. Alder Flycatcher 6. Palm Warbler 10. Canadian Warbler 30. Wilson's Warbler 4. Ruby-throated Hummingbird 1. Yellow-throated Vireo 4. Mourning Warbler 1. Cerulean Warbler 1.

May 18—Wood Pewee 5.

May 21—Yellow-bellied Flycatcher 5.

No "All Day with the Birds" was attempted this year. Attention was paid principally to first dates of migrants and

the conditions that governed the first arrivals. These were mostly on rainy or cloudy days, for the earlier birds, while the warblers waited carefully for the warmer waves.

ABNORMAL COLORATION OF THE SCAUP DUCK.

BY W. F. HENNINGER.

Among a series of 10 (8 males and 2 females) of the Scaup Duck *(Marila marila)* shot this spring on the Loramie Reservoir and the Miami Canal, there are three males (all shot March 27, 1909), that show a decidedly abnormal coloration. While the normal plumage of the belly and sides is pure white, one male (No. 736 coll. W. F. H.) has the biggest part of the belly grayish, with darker shaft streaks to each feather and a few brown feathers in the black breast. One male, No. 734 (coll. W. F. H.) has more brown feathers on the breast than black ones, these brownish feathers extending well up among the neck feathers. No. 738 (coll. W. F. H.) male has not only more brownish breast feathers than No. 734, but the whole lower breast, belly and abdomen beyond the anus are overlaid with a rusty-brownish wash extending upward on the side, and has one bright brown tail feather. This certainly was not caused by grease as the specimens were freshly killed, nor by any compound of iron in the water as suggested by Mr. I. F. Arrow in the Auk, April, 1909, p. 189. The color would not yield to chemical treatment and must be due to other causes. Mr. Leon J. Cole in the Osprey, 1897, p. 69, records a similar specimen of the Lesser Scaup Duck as No. 738 of my collection, only mine is the Big Scaup. No doubt there may be other speciments of *Marila marila* showing similar abnormal coloration in the large museums, but if so, they certainly have not been brought to light and it seems worth while to direct the attention of the working ornithologists to such occurrences.

AUDUBON CORRESPONDENCE.

BY FRANK L. BURNS.

A LETTER FROM AUDUBON TO HARLAN, DESCRIBING A SUPPOSED NEW SPECIES.

Through the kindness of Mr. Alfred C. Redfield, of Wayne, Penna., I am enabled to offer an unpublished letter from John James Audubon to Dr. Richard Harlan, of Philadelphia. It is closely written on a single sheet, postmarked "Charleston, S. C., Dec. 23," and contains his original description of the *Polyborus cheriwayi,* Audubon's Caracara, from the freshly killed bird. The date of capture does not exactly agree with his published account. Apparently, Dr. Harlan made no effort toward publicly ushering this bird into our North American fauna; and its introduction was not accomplished until 1834, when Audubon published his second volume of Ornithological Biography, then fully aware that the species was not wholly new to science, having been accredited to tropical America many years before.

This letter was presented by Mrs. Harlan to the Great Central Fair for the U. S. Sanitary Commission, during the Civil war; and has since been a part of the Redfield collection.

"Description of a New Species to be named by Doctors Harlan or Pickering.—shot at St. Augustine, November 24, 1831—by *J. J. Audubon.*

Bill along the ridge 1¾ Inch. Along the Gap 2¼.—$^{9}/_{10}$ of an Inch high, depressed, semi-circular above, slightly bent toward the tip, with acute edges.—Lower mandible truncate, edges sharp—both pale blue. Cere broad and along with the fleshy part around the mouth and chin deep Carmine Colour. —Tongue muscular, fleshy, tipped with a hard cartilage, the latter bright Yellow tipped with black, the former carmine.—Nostrils, small placed near the outer edge of the cere, nearly [illegible]. Eyes bright umber edged with red and yellow skin—eye brows not prominent—bristles around and on the lower parts of both mandibles, black, recurved, stiff.—Upper

part of the head covered with long, loose, brownish feathers, all of which are erectile. Wings, back and rump deep chocolate or brown—edged with paler.—2d, 3d, 4th and fifth Primaries, shafts white for several Inches, crossed on the outer Vein with brown—4 quill longest.—upper tail Coverts with Tail which is composed of 12 broad feathers light Buff as well as the femorals and under tail feathers, crossed with regular streaks of brown, bro [torn by seal] banded at tip.—Shafts of the same above, and beneath White.—Throat, Sides of the head and neck feathers to the shoulders above and the [torn by seal] beneath, bright ferrugineous marked longitudinally with streaks of deep black each with rufous, divided in the center with rufous—body beneath as the back. Thighs, muscular, very dark brown, longish—Tarsus 3 and ¾ Inches long. Middle toes 2⅛,—connected with the outer by a small membrane—All bright yellow.—Scutellate above, rough beneath.—Claws long, nearly straight, black.—

Total length from tip of bill to end of Claws 24⅝ In. Wings 1⅝ shorter.—Tail ½ Inch shorter than to the claws. Breadth four feet—Weight 2½ pounds.—Interior of the mouth yellow, skin of the body yellow—body muscular and tough—craw or bag of the stomach a mere pouch filled with putrid flesh—Deer and horse Hair, with many maggots.—Feed along with Buzards and Carrion Crows, tearing as they do the flesh from under their feet. Flight, high, protracted. Elegant.—Male Bird—Breed in the Interior of the Florida, rare.—

Make the best of this you can until you receive the Skin and recollect then that the colours have greatly faded since I made my drawing which was up to Nature when alive.!"

Ever yours, Dear Harlan, I. J. A.

NIDIFICATION OF THE WORM-EATING WARBLER

The wooded hills of Chester county, Pennsylvania, especially the long broken ridges bordering the Chester valley and the Brandywine creek, have long been famous as the breeding ground of the Worm-eating Warbler. I had promised two young friends, both members of the Delaware Valley

Ornithological Club, that I would initiate them into some of the mysteries of the domestic life of this little bird. Accordingly on the afternoon of the last day in May, 1908, we set out for a former favorite locality about a mile from Berwyn. It had been a number of years since I had given this species any particular attention, and it was some time before the nest and five eggs were found about half way up the hillside, under the usual drift of dead leaves. The photographer, who had actually located the nest, took a very good picture, showing the situation admirably, and according to my way of thinking, had slightly the best of the oologist, who fell heir to the nest, the first of the species he had personally collected. Most of my notes on this bird have been published. Chapman has given the average size of the egg as .69 x.53. Here I find it somewhat larger, however. Mean. .70 x .55, maximum, .76 x .59, minimum. .62 x .50. Five eggs are more often deposited than four.

FRANK L. BURNS.

Worm-eating Warbler, *Helmitherus vermivorus*, Daylesfield. Pa., May 31, 1908. (Alfred C. Redfield.)

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EDITORIAL.

The usual spectacle of appearing late is again presented. Indeed, the editor sees little light in the direction of promptness for months to come, since his time belongs to Oberlin College. The editorial work has to take remnants of time, being wholly incidental to regular work. The present number is later than usual, and later than the remaining two numbers for the year are likely to be because the June Number conflicts with the closing weeks of the college year, which are always full. If this tardiness worries the reader half as much as it does the editor he (the editor!) is very sorry.

Letters addressed to the editor at Birmingham, Ohio, during August and September, will reach him more promptly than if addressed to Oberlin.

W. L. Dawson, our fellow member, has seen his monumental work on the Birds of Washington through the press and has already begun delivery to subscribers. This book resembles his Birds of Ohio in general, but is far better in every particular. He is to be congratulated upon the completion of what seemed an all but impossible task.

The definite movement which has been set on foot by Professor Leon J. Cole, of New Haven, Conn., for tagging birds is worthy of more than passing mention. The aluminum strips used for the tagging—small strips with a number and the words "Notify the Auk, N. Y.," are to be bent around the tarsus of a bird, a careful record kept of the birds so tagged, and this record finally returned to Professor Cole. So many of these tags are being attached to birds this summer that great hopes are entertained that many of the birds bearing tags will be heard from. By this means it should be possible to determine with accuracy the wanderings of the birds. It is only by some such means that individual birds may be surely recognized.

FIELD NOTES.

BAIRD'S SANDPIPER (*Actodromas bairdii*) IN WAYNE COUNTY, MICHIGAN.—In the Wilson Bulletin for December, 1908, on page 207, Mr. P. A. Taverner credits Mr. Albert Jones with taking a Baird's Sandpiper on September 13. This bird was shot and identified by Mr. Walter C. Wood, who presented it to Mr. Jones. The Baird's Sandpiper was anything but rare during the autumn of 1908. I examined specimens taken on various dates by Walter C. Wood and Herbert H. Spicer. Personally, I did not meet with it until August 26, when I noted a flock of seventeen and took a specimen. From that date they were present on all visits until last seen on September 27. I secured my last birds September 23. These were all on the mud and water swale on P. C. 667, Ecorse Township, mentioned by Mr. Taverner. J. CLAIRE WOOD.

THE DICKCISSEL IN WAYNE COUNTY, MICH.—In the Wilson Bulletin for June, 1905, and March and June, 1907, I gave my local observations of the Dickcissel prior to 1907 and will now bring them up to date. June 30 1907, I crossed the belt of open lands where the greater number of Dickcissels were seen the previous year. My attention was directed to a male by his song and I took the time to locate the nest. This was found by beating to and fro through the weeds until the female flushed. It was well concealed and placed in the thickest kind of weed growth about three feet above the ground and contained two fresh eggs This was on P. C. 619, Grosse Pointe Township. No more birds were seen, but when I returned to this nest, July 7 three additional pairs were present. July 1 a male spent much time singing from a telegraph wire by the roadside on Section

17, Springwells Township. This was on the margin of a clover field into which the bird frequently flew and where a mate was probably brooding. During 1908 I was not in any of the localities where Dickcissels were previously observed and none were seen elsewhere.

Detroit, Mich. J. CLAIRE WOOD.

THE ROUGH-WINGED SWALLOW AND BLUE-GRAY GNATCATCHER BREEDING IN WAYNE COUNTY, MICHIGAN.—May 30, 1901, we located a colony of Rough-winged Swallows in Springfield Township, Oakland County, and all the eight nests examined contained eggs. May 30, 1902, this colony was reduced to three pairs and the two nests examined contained eggs. Assuming this as the proper time to look for sets in Wayne County I made a special trip May 29, 1903, to a suitable locality in Nankin Township. Six complete nests were found, but it was too early for eggs. This was probably a mere seasonal difference, however, for on my next attempt, May 31, 1908, the first burrow opened contained a slightly incubated set of seven eggs. This was on Section 22, Canton Township. Other pairs were noted, but not disturbed.

The Oakland County birds were in a colony like Bank Swallows, but in Wayne County they are strung along the clay banks about five pairs to a mile and sometimes only one pair to a whole township, while in many townships they do not occur at all. I have read somewhere that it is difficult to separate this species from the Bank Swallow while in flight, but this is contrary to my experience. If together the Bank looks smaller, but this can not be considered good identification. The flight of the two species, however, is entirely different, the Bank being sharp and cleaving and the Rough-winged more fluttering and bat alike; but at close range it requires no expert to separate the two species. The brown pectoral band of the Bank contrasts sharply against the white, while the underparts of the Rough-wing have a brownish white appearance without any contrasting color.

On the same day that the Rough-winged Swallow's eggs were taken I located a nest with five slightly incubated eggs of the Blue-gray Gnatcatcher on Section 22, Canton Township. The nest was about twenty-five feet above the ground in the upright fork of an elm sapling, and although the tree shook and bent beneath my weight madam clung to her treasure with head craned downward. I slowly reached up the other side of the nest, caught her tail between two fingers and jerked her into my hand, all her tail feathers coming out just as my fingers closed. When released she did not even leave the tree, but fluttered about uttering cries of protest. This reminds me of a probable case of heart failure. Many years ago I caught a robin

on her nest, and after a few seconds of struggle her body suddenly became limp. She was dead.

Detroit, Mich. J. Claire Wood.

The La Rue Holmes Nature Lovers' League, now numbering over three thousand young members, in schools, chiefly, had its origin in the life and conception of a young naturalist, who mourned with intense yearning love over passing nature, but who was called to a higher place of service when but upon the threshold of his contemplated work. Its executive officers are Mr. Waldron De Witt Miller, President; Miss L. Connolly, First Vice-President; Mr. F. N. Marcley, Second Vice-President; Capt. G. C. Musgrove, Treasurer and Recording Secretary; Mrs Benj. P. Holmes, Secretary; and a Board of twenty-six directors. The Treasurer's report shows receipts of $322.35 and expenditures amounting to $181.9, leaving a balance of $140.40. The following notes have been contributed by members:

Wild geese flew over this house on January 31. It was impossible to tell even the direction of flight, the fog being so intensely dense, their presence being made known by their *honk, honk*, as they passed by.— *G. K. Holmes, Summit, New Jersey.*

I saw two bluebirds flitting from tree to tree, on, or about January 28.—*S. Teeple, Morristown, New Jersey.*

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Fig. 6.—Looking northwest along the path from the rear of the Breakers Hotel. The vegetation is transitional into Pinus-Juniperus Forest Formation. Note old cottonwoods, young pines, junipers, and oaks, and numerous lianas; also conspicuous tertiary layer. Near here the Woodcock is believed to nest, also probably Green Heron. This is typically a woodland song bird retreat.

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OLD SERIES VOL. XXI. NEW SERIES VOL. XVI.

THE BIRDS OF CEDAR POINT AND VICINITY.

BY LYNDS JONES.

29. *Marila americana.*—Redhead.

This is not now one of the more common of the ducks, although it may still be properly designated common. There have been regular visitations of small groups, composed of males and females, the latter usually predominating, to the Oberlin Water Works reservoir since its establishment. In the marshes it is usually found in the companies of Baldpates, where it can be readily distinguished by its color pattern. During the period of my studies at Cedar Point I have never seen any large companies of this species. The groups are more often composed of less than twenty individuals than more. The earliest migration date is March 4, 1904, and the latest spring record is April 23; the median spring arrival is March 12, and the usual time of departure is near the middle of April. My only fall record is October 21, 1907, when two were seen.

30. *Marila vallisneria.*—Canvas-back.

My records indicate irregular occurrence, but there are doubtless some individuals among the host of ducks in the marshes each migration season. Judging wholly from my own records I would call this duck uncommon and irregular. From April 13 to 20, 1903, there were four males and one female on the Oberlin Water Works reservoir, and on November 19 and 21 of the same year one visited the same place. Migrations seem to take place at the same time as the Redhead, and the birds seen have usually been members of the company of Baldpates, Redheads, etc. Fishermen and hunters state that this is a fast disappearing species at the marshes.

31. *Marila marila.*—Greater Scaup Duck.

Tolerably common during the earlier part of the migrations in spring, and latter part in fall. The spring migrations occur dur-

ing the second week of March, individuals lingering until the third week of April. I have one record for May 15, 1899. The birds return during the middle of October and linger until winter weather begins, which was December 29, 1902. There have been numerous visitations to the Oberlin Water Works reservoir during the vernal migrations. Groups are more often seen on the open waters of the lake than is the case with the next species, but numbers also feed in the more open areas of the marshes.

32. *Marila affinis*.—Lesser Scaup Duck.

Everything considered this is the most abundant of the ducks. It literally swarms in the marshes during late March and the most of April, where feeding companies cover large areas of the open waters of the marshes. On Mondays, close days, they feed and play and court on a certain large open area near the mouth of Black Channel, apparently possessed of a feeling of security. On open days they are flying wildly about, many seeking refuge on the open lake beyond row-boat range (shooting from power boats is unlawful). Median dates of arrival in spring are March 23, and the bulk do not return before the last of October. Most of the birds have left by the first of May, but I found a flock of upwards of 100 as late as May 22, 1909. A few pairs breed within reach of small bodies of water near Oberlin, and I have some evidence for believing that a few pairs breed in the vicinity of Cedar Point proper. There are always some few wounded individuals about the bay and marshes all summer, but these are not breeding birds. From about the first of May until the third week of May it is a common thing to find numbers of this duck washed up on the bay side of the sand spit dead or dying. Careful examination of the cadavers in a number of instances has failed to reveal any wound or other physical defect. It is possible that death has been caused by lead poisoning, as reported for similar cases elsewhere.

Female Scaup Ducks may be readily identified by the area of white at the base of the bill.

33. *Marila collaris*.—Ring-necked Duck.

The markings of this duck are not sufficiently distinctive at a distance to make identification certain. On April 9, 1900, and April 5 to 12, 1904, one individual visited the Oberlin Water Works reservoir. My other records are May 25, 1903, one at Elyria, on the Black river, March 26, 1904, at Oak Point, March 25, 1907, two at Cedar Point, April 24, 1909, two on a small cemetery pond in Oberlin. I have relied on specimens in hand or at close range for all of these records. It seems probable that the species is more numerous in individuals than these records would indicate.

34. *Clangula clangula americana.*—Golden-eye.

Out of twelve records for this species seven are for the Oberlin Water Works reservoir. There are only three Cedar Point records. No migration dates can be assigned from the records, but there are indications that the spring migration covers the last half of March and most of April, and that the birds return during the last half of November. January 20, 1908, three were recorded at Cedar Point. Hunters mention Golden-eyes or "Whistlers" as occasional ducks in the marshes.

Fig. 7.—A dune controlled by the Prunus virginia Consocies of the Prunus-Rhus Dune Thicket Formation. Note the secondary species. This dune appears in the distance in the left third of Fig. 2 (first paper). It was in the vicinity of this dune that the nest of Piping Plover was found, in the midst of a broad, flat sand waste.

35. *Clangula islandica.*—Barrow's Golden-eye.

There is the skin of a female in the Oberlin College collection which was captured on April 5, 1892, at Lorain, by Mr. Harry Warden. Its presence in the Cedar Point marshes has been strongly suspected, but no specimens have been actually secured.

36. *Charitonetta albeola.*—Buffle-head.

A common migrant, but far less so than formerly. The decrease has been marked since 1904. Until 1904 it was the most regular of the ducks in its visitations to the Oberlin Water Works reservoir, companies of from three to more than twenty remaining there

for several days without showing concern about people all around the embankment. Such companies were always mixed males and females. Early in the season the males usually predominated, but late in April or early in May the females predominated. I have never found them numerous at Cedar Point. On two occasions there was an occasional Buffle-head among the Lesser Scaups washed up on the bay side of the sand spit. Three were seen on every visit to Cedar Point the winter of 1907-8. These ducks are not much hunted and are therefore not at all wary, permitting a close approach.

37. *Harelda hyemalis.*—Old-squaw.

Irregular in its occurrence. Of the seven occurrences since 1896 three have been on the Oberlin Water Works reservoir. On March 11 and 12, 1903, there were two females and one male there, the male in high color. One was shot on a small pond north of Oberlin on April 22, 1907; also a male in high color. The only Cedar Point record is of two birds on November 12, 1906. There were reports of numbers during the winter off Lorain, 1901-2, but my only record for that winter was one at Oak Point, December 23. Lorain fishermen tell tales of these birds being caught in gill nets at a depth of many fathoms. Four specimens in the Oberlin College collection have the remark written on the labels, "Caught in gill net off Lorain."

38. *Oidemia deglandi.*—White-winged Scoter.

The only actual capture of this species at Cedar Point must be accredited to Messrs. F. M. Root and N. Metcalf, May 10, 1908. They report having seen a number of others in the company from which this one was taken. I have been reasonably certain of the presence of this species at Cedar Point and Oak Point, but absence of specimens prevented entering it as certain.

Other records for the eastern parts of the lake shore in the region covered by these studies are: April 27 and May 3, 1892, by H. Warden, Lorain; December 4, 1903, a flock of fourteen at Oak Point, November 19, 1906, a flock of six east of Huron.

39. *Erismatura jamaicensis.*—Ruddy Duck.

Of regular occurrence as a migrant, but clearly decreasing in numbers. Of regular occurrence on the Oberlin Water Works reservoir from 1898 until 1904, since which none have been seen there. The first birds reached the reservoir about April 13, usually remaining a full month. They returned about the middle of October and remained two to four weeks. This duck reaches the marshes near the last of March, leaving May 13, 1907. Like the Buffle-head, early companies contain more males than females, but with late companies the reverse is true. I have seen more Rud-

dys near the shore in the lake than on the marsh side. This is one of the unwary ducks, permitting a near approach, and usually preferring to dive rather than to take wing when too closely pressed.

40. *Chen hyperborea*.—Lesser Snow Goose.

A flock of over sixty was seen at close range on October 29, and another of thirty-eight on November 12, 1906. The first flock was flying inland from off the lake, about a mile west of Huron; the

Fig. 8.—Juniper-capped dunes north of the Lake Laboratory. The blowout has Panicum, Andropogon, Artemisia, Salix interior. Spotted Sandpipers nest in grass bunches in situations like this. Here also are found the Field Sparrows nesting, while many other species of song birds feed and sing all about and over it.

second flock was flying out over the lake half a mile west of Rye Beach. Of course absolute identification was impossible, but the probabilities all favor the supposition that these birds belonged to this species.

41. *Chen caerulescens*.—Blue Goose.

The first to be recorded from this region were captured on the Oberlin Water Works reservoir October 28, 1896. The only other records seem to be a flock of thirty, October 20, and a flock of eighteen, November 12, 1906, west of Huron. There can be little doubt that both this and the last species is of more common occurrence than these records indicate. Gunners bunch all geese to-

gether, so their statements are of no value. More systematic studies in this region would probably result in many more records of these species.

42. *Branta canadensis.*—Canada Goose.

A fairly regular migrant, but hardly common. Flocks ranging up to sixty individuals still are seen occasionally in both migrations. The birds are usually either flying over at considerable height, or are well out on the lake; occasionally one is fortunate enough to find a flock resting on the beach, when with extreme care it may be possible to creep up to close range. I have crept up to within twenty-five yards of small flocks so resting—always on close days. The first spring migrants come in on the first migration wave, with Robins and Bluebirds and Meadowlarks. I have seldom seen more than three flocks in a season, so have not been able to determine the approximate date of departure northward. Fall migrations occur with the first touch of winter.

43. *Olor columbianus.*—Whistling Swan.

My records are confined to the years 1899, when one was brought to the Oberlin College museum on April 3; 1904, March 14, when one paid a short visit to the Oberlin Water Works reservoir, March 21, nine were seen flying over Elyria, March 23, when eleven were seen at Oak Point; 1906, November 12, six, and November 19, thirty-five, at Cedar Point; 1907, March 18, a considerable flock flying south across the west end of Cedar Point; 1908, March 18, a flock at Cedar Point; 1909, March 22, one at Cedar Point. During the week ending on April 3, 1899, a great fall of heavy snow caught the swans in their migrations, and great numbers of them were forced to seek refuge on the ground. Many reports reached the museum that birds had been shot and were being held subject to orders. The only one actually brought in proved to be a fine specimen of a Whistling Swan, all others were declined because the holders were too avaricious. These birds usually fly so high while inland that they are not noticed. On the two rare occasions when flocks were sighted resting on the beach, after the manner of the Geese, I was able to stalk them to within about seventy-five yards. Their bearing on these occasions called out the involuntary exclamation "Kingly birds."

44. *Olor buccinator.*—Trumpeter Swan.

The only capture of this species within the area treated was by Mr. L. M. McCormick on April 20, 1891, at Lorain. It is said that the Trumpeter remains well out in the lake, during the migrations, and is therefore seldom seen. Judging from the records it is of rare occurrence.

45. *Botaurus lentiginosus.*—Bittern.

A common breeder in the marshes. The first arrive near the first of April, more often after than before, and most have gone south by the middle of October (21st, last, 1907). I have never been fortunate enough to find a nest, but if one can judge of the nesting place by the presence of the birds, it is among the rankest vegetation where human progress is made next to impossible by the depth of the muck and the denseness of the brakes and cattails. During the courting season the air is often palpitant with the peculiar mate call. Occasionally one may see three birds rise suddenly from the vegetation in swift chasing flight, and suddenly disappear again into the vegetation. During the migrations individuals are frequently found in any wet place, even in the deep gorges. In early fall they wander into the streams well toward their sources, and fish for frogs in the open borders of the stream. It is on such occasions that they can be studied to advantage, for they are not able to hide themselves in the vegetation.

46. *Ixobrychus exilis.*—Least Bittern.

Tolerably common in the marshes all summer. My records indicate that the migrations occur about the first of May. On April 25, 1904, one remianed perched in a tree on the Oberlin College campus all day, appearing to be exhausted from a long flight. This earlier date may indicate that the actual first wave of migrants passes just before the greatest wave of migration, which usually sweeps through this region during the first week in May. I have never been able to find this bird after the breeding season. While one may always be certain of finding a considerable number of this Bittern in the marshes in summer, it is nowhere as numerous as I have always found it at the Licking Reservoir, near the center of the state. Its nest is skillfully placed among the rushes and reeds about four feet from the surface of the water, with no runway leading down. The birds fly easily and are able to reach the nest without danger of knocking it out.

47. *Ardea herodias.*—Great Blue Heron.

Regular, but hardly common, from about March 20 to October 20. Most records are of single birds seen flying, but occasionally two are seen together, and in the fall it is not unusual to see a company of a dozen or fewer birds on the beach or about the fish pounds. There must be a small nesting place somewhere near Cedar Point, but it has never been discovered to my knowledge. I have never seen a nest of this species in the area under consideration. During August these birds frequent the river gorges, where they are pretty certain to meet death at the hands of some "man with a gun."

48. *Herodias egretta.*—American Egret.

There is a specimen in the collection of Mr. R. E. Jump, of Oberlin, which was captured by Mr. Jump prior to 1885, in the vicinity of Oberlin, and a specimen in the collection of Mr. A. Hengartner, of Lorain, taken near Lorain in 1897, by Mr. Hengartner. These were undoubtedly wanderers far out of the ordinary range of the species.

49. *Butorides virescens.*—Green Heron.

A tolerably common breeding bird over the whole region. The first migrants reach us near the 25th of April, and the most have left the region by the first of October. The latest record is November 13, 1897, when one tarried in the vicinity of the Oberlin Water Works reservoir all the autumn. Prior to 1900 it was not unusual to find groups of a half dozen nests in the button bush thickets at Oak Point and elsewhere, but of late years nests are more often found singly in such situations or in orchards. They sometimes resort to thickets of slender second growth along the borders of streams. These herons eat great numbers of grasshoppers, as examination of stomachs proves.

50. *Nycticorax nycticorax naevius.*—Black-crowned Night Heron.

The only specimen taken in the region is now in the collection of Mr. R. E. Jump, of Oberlin. I have searched for the bird in vain, but am not yet convinced that it is as rare as the lack of success would indicate.

51. *Rallus elegans.*—King Rail.

On three visits to a lagoon on Middle Bass island the King Rails have been the most conspicuous birds there. All of these visits were a month after the breeding season, so it is likely that a good many young birds were among the lot. In the Sandusky marshes the birds are less easily found, and seem to be less numerous. During the migrations single individuals may be found practically anywhere out of the woods. I have met them along roadsides, in barn yards, about small field ponds, in the marshes, and along the sand spit. Away from the wet places the single birds are usually no more wary than a hen, but in the marshes they get out of sight quickly, or even fly away from one. The spring migration seems to take place during the first week of May. In 1906 I found two individuals at the sand spit on October 15, and one on the 22d. Whether or not this is unusually late I am unable to say, since these are my only fall records.

52. *Rallus virginianus.*—Virginia Rail.

Common in the marshes from the middle of April until the first of October, and not infrequently found in any wet place. A pair raised a brood of eleven in a small swamp made by removing earth

for filling, less than ten rods from the Oberlin Water Works reservoir, in the summer of 1907. The nearest occupied dwelling-house was about twenty rods away. Men with teams were removing earth from a bank about three rods from the nest every day. I have found this rail in all of the marshy stream mouths, where the nest is placed upon a grass tussock, always at least six inches above the water. The peculiar calls of these birds are one of the features of the marshes in summer. In my experience this rail flushes more readily than the Sora, and is inclined to fly farther. Judging from the number of birds actually seen, it is the more common. My earliest date for a nest with eggs is May 8, 1903.

53. *Porzana carolina.*—Sora; Carolina Rail.

Common in the marshes from the first week in April until the last week of October, and often met with in small marshy or wet fields. It is pretty closely associated with the last species during the breeding season. I have a suspicion that it is our most common rail, but its reluctance to rise above the vegetation, and its adeptness at dodging and hiding have made actual sight records fewer than of the preceding species. I have never found specimens of the Virginia Rail which had been killed by striking wires or other obstructions, but there are a number of such instances of this species being killed in this manner, and that in both seasons of migration. The calls of the Sora are often given in a sort of concert. Perhaps it would be a more accurate description to say that the call of one bird is followed by a wave of calls over the marsh.

Rail shooting does not seem to be much practiced hereabouts. Perhaps the extreme difficulty of getting about in the marshes may prove a serious hindrance to hunters.

54. *Porzana noveboracensis.*—Yellow Rail.

The only record known to me is that of a live bird brought in from the marshes and confined in a cage for some days, in the Oberlin College Museum. It finally escaped—with its skin! I am unable to give even the approximate date of this record. There is probably little doubt that it is more or less regular at least in the migrations.

55. *Ionornis martinica.*—Purple Gallinule.

"Professor E. L. Moseley reports a specimen captured at Sandusky bay, April 28, 1896; Dr. Carl Tuttle, one which had flown against the telegraph wires and was killed, 'along the lake shore,' September 2, 1894 (Auk XII, 191)." Jones, Birds of Ohio, 61.

56. *Gallinula galeata.*—Florida Gallinule.

The parts of the marsh that are covered by vegetation are full of them during the summer. My records indicate that they ar-

rive during the last week of April. I have no fall records. The nests are built up from the water, usually heaps of vegetation, which are always dry on top, with a made runway from the nest into the water, up which the birds climb in going from the water upon the nest. The places where I have found nests the most numerous were near the borders of open water where the vegetation is dense. The birds seem to require effective cover, but sufficient space between the stalks for easy progress swimming or wading. If one approaches the nest the bird slides off and almost immediately begins a protesting cackle, circling about among the reeds just out of sight. At least one pair has appropriated Biemiller's Cove for a nesting place, and the whole family may be seen there busily at work picking up a living. It is a common sight, in season, to see Gallinules lined up along the border of Black Channel, industriously feeding just at the edge of the channel. Many times I have counted upwards of fifty at the west entrance to this channel. One can penetrate the marsh practically nowhere without calling forth loud protestations from these birds.

57. *Fulica americana*.—Coot.

Abundant in the marshes during both migrations, but breeding only sparingly. It is a frequent April visitor at the Oberlin Water Works reservoir. Coots arrive in the marshes as soon as the ice disappears, which was March 9, 1908, but not until March 25, 1907, and become common in a few days. They remain extremely common until well toward the middle of May (May 20, 1907), then decrease to a few breeding pairs. They return to common about the middle of September, and remain very numerous until the first touch of winter—near the middle of November. My latest record is November 26, 1906. The Coots are much more open water frequenters than the Gallinules, and fly rather more readily when startled. They feed more in the open water near the borders of the marsh, or along the borders of any open water area. They are seldom seen feeding singly in the marshes during the migration movements, but gather into companies, sometimes numbering over a hundred individuals. Their hen-like movement of the head and neck when they are swimming makes it easy to distinguish them from the ducks when both occur in the same company. They do not seem to fraternize with the ducks to any extent.

58. *Steganopus tricolor*.—Wilson's Phalarope.

There are two records, both in the vicinity of Oberlin. On May 10, 1899, there was one at the Oberlin Water Works reservoir, and on the 14th of the same year one at a small field pond just outside the village limits. I feel certain that the species is one which regularly visits the area, but has escaped notice.

59. *Philohela minor.*—Woodcock.

Regular, and common in suitable localities. Its arrival from the south is a good deal dependent upon the weather. If there is little snow during March the birds may be expected by the middle of that month (March 10, 1902), but if there is pretty continuous snow they wait until near the first of April. My latest fall record is October 9, 1897, but it is more than likely that this is too early for the bulk of the fall migrations. I have found them at various places along the sand spit, and feel confident that several pairs breed in the denser shrubbery east of the Lake Laboratory, as well as west of the pleasure resort grounds. The presence of these birds is best noted during the mating season, when their twilight courting antics and notes may be seen and heard in almost any piece of woods of more than a few acres extent. Many of the larger swampy woods are being cleared away and the breeding places correspondingly restricted, but the birds cling tenaciously to the remnants that are left, or even nest in the brushy borders along fences if the humidity conditions remain congenial. There seems to be relatively little hunting of these birds in this region, so that there is reason for hoping that their extermination will be postponed for long. It is worth any one's while to go into the haunts of this bird during the courting season for the purpose of noting the courting methods. The male birds seem to be almost fearless at such times. Near at hand one will hear, with startling distinctness, "bzzz-z-z-st, bzzz-z-z-st, bzzz-z-z-st, bzzz-z-z-st," sometimes repeated many times before the bird mounts diagonally upward through the opening among the trees with short, whistling wing beats, launches out over the woods high up, in mazy circlings, upward until nearly lost to sight, and far away from the starting point, then the flight ceases with the peculiar whistling noises, and the bird floats downward by a crooked path, the while calling in coaxing tones "p chuck tuck cuck oo, p chuck tuck cuck oo, p chuck tuck cuck oo," uttered more slowly at first, regularly increasing in rapidity until the notes are almost a continuous weedling call as the bird descends into the woods, cease entirely just as he regains his perch. Almost immediately he again begins his call "bzzz-z-z-st," and the whole performance is repeated. In the chasing flight, which is certain to follow this demonstration of affection, the birds are completely lost in the business (?) of the moment, and all but dash into the observer if he happens to be in their line of flight.

60. *Gallinago delicata.*—Wilson's Snipe.

Tolerably common during the migrations. It usually arrives during the last week in March, depending somewhat upon the weather, and departs northward near the 10th of May. I have not found many at Cedar Point in the marshes, probably because it has not

been practicable to beat about there for them, but at Oak Point, where the marshes grade into mud and grass flats I have always found considerable numbers at the proper seasons. It is also not uncommon in the meadows in which water stands in spring. The old dead-furrows which contain water are pretty certain to have their quota of from one to many Snipes during April. Fifteen years ago there was considerable snipe hunting, but I have seen very little of it recently. In the fall the birds return late in September and remain about a month. At this season one must look for them in marshy ground, where the food is abundant. It has never been my fortune to see and hear the courting antics of this bird.

61. *Tringa canutus.*—Knot.

I have not met this bird, but Mr. L. M. McCormick, who spent a number of years at Oberlin prior to 1892, states in his manuscript list that it is a rare migrant on the lake shore only. In view of its regular occurrence at Point Pelee one might reasonably expect to find it somewhere along the route of migration.

62. *Pisobia maculata.*—Pectoral Sandpiper.

The most numerous of our sandpipers prior to 1898, but since then it has been scarce. I believe that one of the causes for its diminution has been the draining and undertiling of the meadows and boggy pot holes in which it found good feeding places, because the places where I now find it are meadows made temporarily wet by newly constructed railroad embankments or other obstruction. I have never seen single individuals while the birds are here, but always flocks. The first appear during the first ten days of April (earliest April 3, 1909), and the last have gone north by the middle of May. The only fall record I have is for the sewer settling beds, September 20 and 25, 1907, a flock of twelve birds.

63. *Pisobia bairdii.*—Baird's Sandpiper.

I have only two actual records for the region. Mr. L. M. McCormick makes the statement, backed up by three specimens in the Oberlin College collection, that it was common on August 30, 1890, at Oak Point. I found one at the Oberlin Water Works reservoir on April 28, 1909. I feel confident that this sandpiper is fairly regular in its migrations across this region, but it has somehow escaped being seen.

64. *Pisobia minutilla.*—Least Sandpiper.

This sandpiper makes its appearance pretty regularly during the second week in May, and is therefore among the latest migrants. It rarely remains more than five days. I have no positive fall records. While here it is more often found on the mud flats or in shallow field ponds feeding industriously, but flocks may occasionally

be found ranging along the lake beach. A low conversational twitter usually accompanies the feeding movements. The birds are not at all wary, so that one may approach almost near enough to note the absence of the web, which certainly distinguishes this from the Semipalmated.

65. *Pelidna alpina sakhalina*.—Red-backed Sandpiper.

I have only four positive records for this sandpiper, as follows: May 8, 1905, and May 17, 1909, two birds each time, on the Cedar Point sand spit; October 6, 1890, at Oak Point, and October 27, 1906, five birds near Huron. I find an additional record by Mr. L. M. McCormick for May 21, 1891. There is every reason for believing that this sandpiper has been regularly overlooked, and that it occurs in each migration in fair numbers. Each of my records are for the lake beach.

Moseley reports it at Sandusky, October 23, 1904.

66. *Ereunetes pusillus*.—Semipalmated Sandpiper.

It is not regularly found in its northward migration, probably because field work in the places where it stops to feed has been largely wanting at that particular time. My spring records are May 16, 18 and 19, 1903; May 19 and 23, 1906; and May 22, 1909. Fall records are September 8, 1904; September 23 and 25, 1907; from July 15 to the middle of August, 1908. It has always been found running along the lake beach, feeding in the wave-washed rubbish. It often accompanies other sandpipers, notably the Sanderling and Spotted. In other places I have found it with the Least, feeding on mud flats or along areas uncovered at low tide. Numbers were found at the lagoon on Middle Bass when low water exposed the mucky bottom. They are appreciably larger, and lighter colored, both above and below, than the Least Sandpiper, with which they are most readily confused. I have almost always found this species in small flocks. On the beach they may be approached to within a rod without taking wing.

67. *Calidris leucophæa*.—Sanderling.

Strangely enough, all but one of my records for the whole region are fall records; the one exception is May 19, 1903, when one was found at Oak Point. The earliest fall record is July 21, 1908, when there were six on the beach at the Lake Laboratory. They remained during the remainder of my stay (I left on July 31), and were not seen again on subsequent visits. The latest fall record is October 9, 1897. They can hardly be called common, but they are pretty regular fall visitors at the lake beach. The distinctly lighter color than any of the other shore birds with long black bill and legs, are certain field marks. They are more often seen with the Semipalmated Sandpipers than with any others, unless it be the Spotted;

but if there are several Sanderlings in the flock they fly together and away from all of the others. They are not timid, and can be approached closely.

68. *Totanus melanoleucus.*—Greater Yellow-legs.

Spring dates of arrival range from April 12, 1905, to April 30, 1906, so that it is difficult to state the probable date of arrival. I incline to think that the birds actually appear near the middle of April, being a good deal influenced by weather. They are likely to tarry until the middle of May. Fall records are too few to be reliable. The earliest date of arrival is September 4, 1899, which is probably too late, and the latest record is October 27, 1906, near Huron. This bird is a frequent visitor to the Oberlin Water Works reservoir, from where his startling "tell-tale" calls may be heard all over town in the morning. I have a number of lake beach records, but the favorite stopping places are inundated muck patches or shallow ponds at the edge of woods. The Middle Bass lagoon, at low water, is a typical feeding place. In such places they stand "knee deep" in the water, often darting hither and thither for some water inhabitant, sometimes feeding with the whole head and upper neck immersed. One could hardly call this species common at any time, but it is regular and in some numbers.

69. *Totanus flavipes.*—Yellow-legs.

This species is rather closely associated with the last, but is about a week later in spring, and I have heard it and seen it flying over the marshes on July 5, 1907, 1908. It is more numerous than the Greater, and in flocks containing both species, a frequent condition, the smaller size and weaker voice are evident. I have no beach records for this species.

70. *Helodromas solitarius.*—Solitary Sandpiper.

The earliest spring arrival was April 18, 1909, and the latest spring record May 25, 1903. The median date of arrival is April 29, and of departure May 19. The first fall record is August 22, 1896, and the latest October 7, 1907. This is our woods sandpiper, or more exactly, woods border, for at the proper season one is practically certain to find one or more of these birds at any pond in the edge or border of a woods. As the name indicates, one finds single individuals rather more often than more than one in a place, but during the migrations it is not rare to find as many as ten at a small pond. On May 14 and 16, 1904, and again on May 14, 1906, these birds were in such numbers as to be recorded as common. On these occasions several were found on every woods pond visited, and at the marshes at Oak Point, there were birds almost everywhere. Many persons seem unable to distinguish this species from the Spotted unless it is well seen and quiet. The note is similar, it

is true, but a double "peet weet"; there are white feathers in the tail, and the birds usulaly rise in a zig-zag flight, going much farther up than the Spotted does, and not flying low out over the water in a loop, returning to the shore.

71. *Catotrophorus semipalmatus inornatus.*—Western Willet.

It is recorded in the card catalog of Cedar Point birds by Griggs, 1900, as follows: "A few individuals." My only record is a captured bird in immature plumage, September 17, 1906, at Oak Point. The bird was a male. Since this specimen is clearly the western form I have taken it for granted that any others found in the region will prove to be the same.

72. *Bartramia longicauda.*—Bartramian Sandpiper.

Uncommon, but regular from the second week in April until the beginning of September. There are two places within a mile of Oberlin where I am sure to find it, and I have discovered a place between Oberlin and Birmingham where the birds nest regularly. A careful census of these birds would probably show that there is a pair to about every section of land which is not too largely wooded. Here they seem to breed in winter wheat fields, which lie close to permanent pastures, irrespective, as far as I can determine, as to whether the land lies high or low. In fact, there is little up-and-downness to the regions where I have found breeding birds, so that their choice must fall upon otherwise suitable nesting sites. The first evidence of the presence of these birds in spring is the flight call, given while the bird is high in air. In a few days the mating whistle is heard, and soon thereafter the birds are located. There were young birds barely able to fly on July 11, 1901.

73. *Actitis macularia.*—Spotted Sandpiper.

Our commonest shore bird. The median date of arrival for thirteen years is April 16. The earliest record is April 9, 1904. The latest fall date is October 30, 1905. Most of the birds have left by the middle of October. It is common all along the lake beach, perhaps a little more so along the sand spit than elsewhere. It is also common along all streams and about all ponds. Away from the lake it often nests in grain fields at some distance from water. It is, perhaps, gratuitous to mention the several little mannerisms which make this sandpiper easily distinguished in the field. The nervous tectering of the body is accompanied by a deep and continuous wag of the hinder part of the body; the flight low out over the water is accomplished by one strong beat of the wings succeeded by several half beats like the rolling of a drum stick. The flight is out in an arc of a circle, the arc reaching the shore at an acute angle. Of course I would not be understood as insisting that the birds always do such things, but they do frequently enough so that they become distinctive of the species.

74. *Numenius americanus.*—Long-billed Curlew.

I find this card reference: "1 specimen, July 20, '06. Rice." There is probably no doubt that the bird recorded was a curlew, but since the Ontario specimens are mostly Hudsonian, there may be a reasonable doubt as to the species.

75. *Squatarola squatarola.*—Black-bellied Plover.

The only positive records are May 16 and 18, 1908, near the Lake Laboratory on the beach. This certainly cannot prove that this species is accidental in the region. It is possible that there is no line of flight for the migrations across the region, and therefore any specimens found are wanderers from the line of flight.

76. *Charadrius dominicus.*—Golden Plover.

There are a number of scattering records for the Oberlin quadrangle, but no migration dates can be assigned. When found the birds are in open pasture fields in small flocks. There has been a marked diminution in numbers in the last twenty years.

77. *Oxyechus vociferus.*—Killdeer.

A common summer resident. It belongs with the first wave of migration and leaves only with the advent of winter. In late summer it is frequently seen in flocks of from half a dozen to fifty individuals, but at other times it does not flock. It is only occasionally seen on the lake beach, but rather frequents small ponds which have a shallow border. The favorite nesting place hereabouts is a plowed field, preferably fall plowing. Nests have been found in pastures and meadows. In straightaway flight the actions of a flock somewhat resemble pigeons in flight. In fact, more than once I have had an elderly man who had been familiar with the Passenger Pigeons in their palmy days remark, upon seeing a considerable flock of these birds, "There goes a flock of Pigeons." On several occasions of peculiarly favorable conditions for migration in spring I have seen great numbers of Killdeers migrating parallel to the lake shore, and always eastward all day long. It appeared that the lake had diverted the stream of migration from the northward direction, and the birds were seeking a land passage. Many that struck out boldly for the Ontario shore soon returned and joined the eastward moving host. I have never been at the island route at the times when these birds are migrating.

78. *Egialitis semipalmata.*—Semipalmated Plover.

All records are scattering. Three were noted May 14, thirteen May 16, and seven May 19, 1903; five May 14, 1906; two May 13, 1907; none in the spring of 1908 and 1909. One on September 4 and 11, 1897; one on September 9 and 14, 1899; two on September 8, 1904; one on July 8, and one on October 21, 1907; one on July 21, 1908. All of these are lake beach records, the July records at

the Lake Laboratory. As the records indicate, single birds are usually seen, and I am inclined to believe that they represent trailers rather than the stream of migration. They are usually associated with Spotted Sandpipers, Sanderlings, and Semipalmated Sandpipers, feeding at the waters edge, ranging up and down the beach. I believe that Pelee Island would furnish the clue to the migration route northward as well as southward of this Plover.

79. *Egialitis meloda*.—Piping Plover.

Several pairs were found breeding near the Lake Laboratory in 1903, and their presence there on June 17, 1904, indicates that there was at least one pair breeding that year, but I have failed to find any in summer since, nor any on the islands at any time. At best the species is scarce. Records of occurrence are May 16, 1903, one at Oak Point, and perhaps six pairs near the Lake Laboratory during the breeding season; June 17, 1904, a pair near the Lake Laboratory; April 15, one, and May 13, one on the sand spit, 1907; May 18, 1908, two on the sand spit; May 17, 1909, one on the sand spit. I have heard voices that I believe to have been of this bird in early July at the Lake Laboratory, in 1907 and 1908, but it was at twilight and the birds were flying. If they were Piping Plovers they were probably the first of the returning birds from the north.

80. *Arenaria interpres*.—Ruddy Turnstone.

I have found it on the lake beach from the middle to the last of May, usually in companies of from five to thirty individuals. The only fall record is September 8, 1904, at Oak Point. Unlike most of the other Shore Birds, the Turnstones range over the whole width of the beach when feeding. They are frequently seen standing quietly on the packed sand, or even on the flat tops of the piles driven to prevent the wash of the storm waves. There is no frequenter of the beach so strikingly colored nor more interesting to watch from cover. The misnomer 'Calico-back' does these birds a rank injustice, if the mental picture which that name conjures up is like mine — any hideous blue and white pattern of cheap dressing goods. The patchy black, white, and ruddy pattern of these birds in full breeding plumage is rather a hint of wealth than of poverty.

ALEXANDER WILSON.

VI.—His Nomenclature.

BY FRANK L. BURNS.

Dr. Coues has declared that science would lose little, but on the contrary, would gain much if every scrap of pre-Wilsonian writing about United States birds could be annihilated. It is true that foreign naturalists had been, for the most part, bigoted, misinformed or too credulous; and the few native writers unsystematic, lacking in initiative and realization of the importance of exactness. However, Wilson did not find systematic ornithology an utter chaos. Linnæus, the great compiler, and his editor Gmelin, had absorbed much from our earlier writers, particularly Catesby, and his Systema Naturæ provided the ground plan and skeleton, it remained to be consolidated, clothed, the gaps filled in; far too great a task in its entirety for the inexperience and brief period of Wilson, even had he the inclination for such work.

Wilson adopted, and with some exceptions, followed the system used by Dr. J. Latham in his Index Ornithologicus, and General Synopsis of Birds, which the Philadelphia library supplied him. For the use of M. Turton's version of Linnæus' Systema Naturæ, he was indebted to his friend Thomas Say. Mark Catesby's Natural History of Carolina, Florida and the Bahama Islands; George Edwards' work; Thomas Jefferson's Notes on the State of Virginia; William Bartram's Travels through North and South Carolina, Georgia, East and West Florida, the Cherokee Country, the extensive territories of the Muscogulges, or the Creek Confederacy, and the Country of the Choctaws; Jeremy Belknap's History of New Hampshire; S. Williams' Natural and Civil History of Vermont; and Benjamin Smith Barton's Fragments of Natural History of Pennsylvania; he found in Bartram's library, or elsewhere

Dr. Francis in describing Wilson's visit to New York, says that he seized the moments of leasure he had, in closely examining books on natural science, in different libraries to

which he could obtain ready access The American Museum, which had been well fitted up, was however, his most gratifying resort. Scudder, the founder of this institute, was indeed a rough diamond, but few could surpass his enthusiasm in studying the volumes of nature, as he termed every object in natural history. Scudder remarked "I have many curiosities here, Mr. Wilson, but I myself am the greatest one in the collection."[1]

In this manner, Wilson obtained the slender book knowledge of birds he possessed. At the time of his death, according to a statement of his executor, his shelves contained but one ornithological work, Thomas Berwick's History of British Birds! He was no closet naturalist . He was eager for the exact truth direct from nature. Ord, with some justice, complains: "In his specific definitions he is loose and unsystematic. He does not appear to have been convinced of the necessity of precision on this head; his essential and natural characters are not discriminated; and in some instances, he confounds generic and specific characters, which the laws of methodical science do not authorize. . . . That he was not ambitious of the honor of forming new genera, appears from the circumstance, that, although he found the system of Latham's needed reformation, yet he ventured to propose but one genus, the *Curvirostra*, the characters of which are so obvious, that one is astonished that so learned an ornithologist as Latham, should have contented himself with arranging the species appertaining to it with others, the conformation, of whose bills is so dissimilar. It may be necessary to state that Crossbills have been erected into a separate genus, under the denomination of *Crucirostra*, by an author whose works Wilson had no knowledge of; and I have reason to believe that even the generic appelation of *Curvirostra* had been anticipated, by a writer on the ornithology of the northern parts of Europe. Brisson limited his genus *Loxia* to the Crossbills, and this judicious restriction appears to be now sanctioned by all naturalists of authority."

[1] Obituary Notice of Alexander Wilson. The Port Folio, New Series, Vol. II. Sept. 1813.

In the spring of 1804, Wilson knew scarcely an American bird. He constantly appealed to Bartram to mark the names of his species under his drawings. Soon the multiplicity of current specific names purplexed and annoyed him, and he writes to Bartram: "The more I read and reflect upon the subject, the more dissatisfied I am with the *specific* names which have been used by almost every writer. A name should, if possible, be expressive of some peculiarity in color, conformation, or habit; if it equally apply to two different species, it is certainly an improper one. Is *migratorius* an epithet peculiarly applicable to the robin? Is it not equally so to almost every species of *turdus* we have? *Europea* has been applied by Pennant to our large *sitta* or nuthatch, which is certainly a different species from the European, the latter being destitute of the black head, neck and shoulders of ours. Latham calls it *carolinensis*, but it is as much an inhabitant of Pennsylvania and New York as Carolina. The small red-bellied *sitta* is called *canadensis* by Latham, a name equally objectionably with the other. *Turdus minor* seems also improper; in short I consider this part of the business as peculiarly perplexing; and I beg to have your opinion on the matter, particularly with respect to the birds I have mentioned, whether I shall hazard a new nomenclature, or, by copying, sanction what I do not approve." Fortunately for the already overburdened synonymy, Bartram's council was doubtless for a conservative course, and ever after Wilson labored diligently to adopt names sanctioned by some one or other of his predecessors, with due regard as to fitness, but little as to priority.

Wilson evidently endeavored to establish the identity of Bartram's species whenever possible, but referred to the List less and less as his own work progressed and his knowledge increased, doubtless realizing the hopelessness of the task, with nothing but the meagre description and the failing memory of his patron to assist him in the identification. On the other hand as Coues has stated, many birds which Wilson first fully discribed and figured, were named by Bartram, and several of the latter's designations were simply adopted

by Wilson, who in relation to Bartram, is as the broader and clearer stream to its principal tributary affluent.[1] So far as the ornithological world is concerned, the originals are now mere literary curiosities, and are appended as a matter of history.

Bartram, 1791.	Wilson, and A. O. U. Check List.
1. *Vultur atratus.* the black vulture, or carrion crow.	*Vultur atratus* Wils.—*Catharista atrata* (Bartr.) until 1899, when it gave way to a later name—*C. urubu* (Vieill.) Bartram being eliminated.
2. *F[alco] niger.* the black hawk.	*Falco niger* Wils. Black Hawk. A synonym of *Archibuteo lagopus sancti-johannis* (Gmel.) American Rough-legged Hawk.
3. *Muscitapa nunciola.* the pewit, or black-cap flycatcher.	*Muscicapa nunciola* Wils. Pewit Flycatcher. Synonym of *Sayornis phœbe* (Lath.) Phœbe.
4. *M. rapax*, the lesser pewit, or brown and greenish flycatcher.	*Muscicapa rapax* Wils. Wood Pewee. Synonym of *Myiochanes virens* (Linn.)
5. *Lucar lividus.* the cat bird or chicken bird.	*Turdus lividus* Wils. Catbird. Synonym of *Dumetella carolinensis* (Linn.)
6. *Muscicapa cantatrix.* the little domestic flycatcher or green wren.	*Muscicapa cantatrix* Wils. White-eyed Flycatcher. Synonym of *Vireo griseus* (Bodd.) White-eyed Vireo.
7. *Sturnus prædatorius* the red-winged starling or corn thief.	*Sturnus prædatorius* Wils. A synonym of *Agelaius phœniceus* (Linn.) Red-winged Blackbird.
8. *C[arduelus] pinus* the lesser goldfinch.	*Fringilla pinus* Wils. Pine Finch. *Spinus pinus* (Wils.) Pine Siskin.
9. *P[asser] palustris* the reed sparrow.	*Fringilla palustris* Wils. Synonym of *Melospiza georgiana* (Lath.) Swamp Sparrow.
10. *F[ringilla] rufa* the red, or fox-colored ground or hedge sparrow.	*Fringilla rufa* Wils. Synonym of *Passerella iliaca* (Merr.) Fox Sparrow.
11. *M[otacilla] Caroliniana* the great wren of Carolina.	*Certhia carolinensis* Wils. Synonym of *Thryothorus ludovicianus* (Lath.) Carolina Wren.

[1] Key to North American Birds.

12. *M. domestica* the house wren.	Named only with reference to Bartram by Wilson *Motacilla domestica Bartr.* Synonym of *Troglodytes aedon* Vieill. House Wren.
13. *M. palustris* the marsh wren.	*Certhia palustris* Wils. *Telmatodytes palustris* (Wils.) Long-billed Marsh Wren.
14. *Sitta varia* the black-capped, red-bellied nuthatch.	*Sitta varia* Wils. Synonym of *Sitta canadensis* Linn. Red-breasted Nuthatch.
15. *T[urdus] melodes* the wood thrush.	*Turdus melodes* Wils. A synonym of *Turdus mustelinus* Gmel. Wood Thrush.

Perhaps, Bartram's *N[umenius] pectore rufo*, or *Tringa rufa*, may have suggested Wilson's *Tringa rufa* Red-breasted Sandpiper; and *Ardea viriscens minor*, his *Ardea minor* Bittern; though the species are certainly not the same. Wilson failed to make use of *P[asser] agrestis*, the little field sparrow, though perhaps *C[arduelis] pusilus*, the least finch, may have suggested his *Spizella pusilla* for the Field Sparrow; nor did he adopt Bartram's *M[otacilla] sylvicola*, the little red-eye'd flycatcher for that species, but transferred the specific name to the Yellow-throated Vireo; and likewise *P[arus] viridis gutture nigro*, the green black-throated flycatcher, to *Hirundo viridis*, White-bellied Swallow. *Fringilla rufa* Bartr. was changed to *F. ferruginea* and marked new in his Catalogue, Vol. VI.

Bartram would serve as an ideal patron saint for a bird protective association. He was exceedingly averse to killing anything, and writes "as long as I can get any other necessary food, I shall prefer their seraphic music in the ethereal skies, and my eyes and understanding gratified in observing their economy and social communities, in the expansive green savannas of Florida." He would not kill the deadly diamond-backed rattlesnake, if it was possible to avoid it, because at the beginning of his career as a botanist, a mountain rattler had refused to strike when he had mistaken it for a curious bit of fungus. However, accidental specimens described in the field are not always satisfactory, and sight diagnoses

seldom accurate; therefore it is small wonder he erred repeatedly. His nomenclature is a mixture of Linnæus, Edwards, Catesby and his own. Unlike Wilson, he seemed never at a loss for a name, and if he had more than one occasion to refer to a species, he seldom repeated the name he had given it, but produced another. Hence we have *Colymbus colubrinus et cauda elongata*, the snake bird of Florida=*Anhinga anhinga*, Anhinga; *Meleagris Americanus et occidentalis*=*M. gallopovo merriami*, Merriam's Turkey; *Falco aquilinus et major cauda ferrugineo*, the great eagle hawk=*Buteo borealis*, Red-tailed Hawk; *F. regulis et maximus*, the great gray eagle=*Haliaetus leucocephalus*, Bald Eagle; *Strix acclamator et various*, the hooting owl=*Syrium varium*, Barred Owl; *Caprimulgus lucifugus et rufus*, the great bull bat or chuck wills widow.=*Antrostomus carolinensis*, Chuck-wills-widow; *Garrulis australis et Motacilla trochilus*=*Icteria virens*, Yellow-breasted Chat; *Motacilla palustris et regulus atrofuscus minor*, or marsh wren=*Telmatodytes palustris*, Long-billed Marsh Wren; *Turdus melodes et minor*=*Turdus mustelinus*, Wood Thrush; and perhaps others.

Not only Wilson, but Barton, Vieillot and Audubon quarried in the ruins of his nomenclature. His list of 215 nominal species, are by no means all identifiable. He did not understand the various changes of plumage some of our birds are subject to, in one or more instances differentiated the sexes of a species, and the confusion was not lessened by the more than occasional employment of established technical terms not applicable to the species under consideration. According to Coues about half are new, and subtracting a number unquestionably derived from other sources, though misapplied, and repetition or multiplication through ignorance of variation in plumage, the number is still large and contains several unknown to Wilson. It is also evident that some one must have imposed upon "Puc Puggy" (the Flower Hunter), as he was known to the Seminoles, in the instance of the so-called *Vultur sacra*, the painted or white-tailed vulture, which he tells us fed upon roasted lizards, snakes and frogs, therefore dependent upon the occasional

firing of the Florida savannas by lightning or the Indians. It is now considered a mythical species. Dr. Allen suggesting that it originated from some facts known to Bartram in connection with the Bald Eagle and the Caracara becoming mixed in his mind with some of his ideas respecting the King Vulture of the American tropics. For over a quarter of a century, Dr. Coues fought for the recognition of some twenty of Bartram's names, but aside from his polynomial tendencies, so many of his species were impossible of positive identification, it must have been a relief to have the bird solons finally decide adversely and eliminate Bartram entirely.

Barton attempted a concordance of Bartram's list in his Fragments of Natural History, 1799, with no very great success. It is full of errors and conjectures in respect to the identity of Bartram's species. He was, however, a strict binomialist, and receives recognition wherever he has properly described a species. From him Wilson has undoubtedly taken his *Fringilla melodia=Melospiza melodia*. Barton places it with the species known to breed in Pennsylvania, and also states: "In mild winters, this bird continues in Pennsylvania, associating with the Snowbirds. Does not appear to be described." Procrastination and lack of energy most probably robbed Barton of the title of Father of American Ornithology. His lamentable lack of concentration drew forth the rather contemptuous observations from Wilson in a letter to F. A. Michaux, the French naturalist; June 6, 1812; "Dr. Barton has not yet published his General Zoology, which he has been announcing, from time to time, for so many years. It is much easier to *say* these things than to do them." Ord states that after the work was ten years in the press, it had advanced no further than *fifty-six* pages in octavo, at the death of the author. "The printed sheets I have read, not only with satisfaction, but instruction; and cannot forbear expressing my regret that an undertaking, which Dr. Barton certainly knew how to perform, and to which his learning was adequate, should have been suffered to perish in embryo."

Wilson was not well versed in Latin, in fact there are

many who considered him a very unlearned man, because he obtained most of his knowledge direct from nature. Herein lies his success. The book knowledge of his predecessors did naught but deepen the obscurities surrounding the species they sought to elucidate. The conviction that here, at last, was a man who could write plainly and convincingly, from intimate personal knowledge, did more to dispel the mysteries of the past than all the high-sounding Latin names, phrases and references; and the appearance of his work marked a new era, glorious to American Ornithology. Wilson is accredited with the following species, which he figured, described and named.

WILSON'S AMERICAN ORNITHOLOGY.	A. O. U. CHECK LIST.
1. *Anas valisineria* Canvas-back Duck	= *Marila vallisneria* (Wils.) Canvasback.
2. *Tringa solitaria* Solitary Sandpiper	= *Helodromas solitarius* (Wils.) Solitary Sandpiper.
3. *Falco misisippiensis* Mississippi Kite	= *Ictinia mississippiensis* Mississippi Kite. (Wils.)
4. *Falco velox* Sharp-shinned Hawk	= *Accipiter velox.* Sharp-shinned Hawk.
5. *Falco atricapillus* Ash-colored or Black-cap Hawk	= *Astur atricapillus* (Wils.) American Goshawk.
6. *Cuculus erythropthalma* Black-billed Cuckoo	= *Coccyzus erythrophthalmus* Black-billed Cuckoo. (Wils.)
7. *Caprimulgus vociferus* Whip-poor-will	= *Antrostomus vociferus* (Wils.) Whip-poor-will.
8. *Corvus ossifragus* Fish Crow	= *Corvus ossifragus* (Wils.) Fish Crow.
9. *Corvus columbianus* Clark's Crow	= *Nucifraga columbiana* (Wils.) Clark's Nutcracker.
10. *Fringilla pinus* Pine Finch.	= *Spinus pinus* (Wils.) Pine Siskin.
11. *Fringilla savanna* Savannah Sparrow	= *Passerculus sandwichensis savanna* (Wils.) Savannah Sparrow.
12. *Fringilla maritima* Seaside Finch	= *Passerherbulus maritimus* Seaside Finch (Wils.)
13. *Fringilla pusilla* Field Sparrow	= *Spizella pusilla* (Wils.) Field Sparrow.
14. *Fringilla melodia* Song Sparrow	= *Melospiza melodia* (Wils.) Song Sparrow.
15. *Tanagra ludiviciana* Louisana Tanager	= *Piranga ludiviciana* (Wils.) Western Tanager.
16. *Muscicapa solitaria* Solitary Flycatcher	= *Vireo solitarius* (Wils.) Blue-headed Vireo.

17. *Sylvia rubricapilla* Nashville Warbler	= *Vermivora rubricapilla* Nashville Warbler. (Wils.)
18. *Sylvia peregrina* Tennessee Warbler	= *Vermivora peregrina* (Wils.) Tennessee Warbler.
19. *Sylvia magnolia* Black and Yellow Warbler	= *Dendroica magnolia* (Wils.) Magnolia Warbler.
20. *Sylvia cerulea* Cerulean Warbler	= *Dendroica cærulea* (Wils.) Cerulean Warbler.
21. *Sylvia castania* Bay-breasted Warbler	= *Dendroica castanea* (Wils.) Bay-breasted Warbler.
22. *Sylvia formosa* Kentucky Warbler	= *Oporonis formosa* (Wils.) Kentucky Warbler.
23. *Sylvia agilis* Connecticut Warbler	= *Oporornis formosa* (Wils.) Connecticut Warbler.
24. *Sylvia philadelphia* Mourning Warbler	= *Oporornis philadelphia* (Wils.) Mourning Warbler.
25. *Muscicapa pusillo* Green black-capt Flycatcher	= *Wilsonia pusilla* (Wils.) Wilson's Warbler.
26. *Certhia palustris* Marsh Wren	= *Telmatodytes palustris* (Wils.) Long-billed Marsh Wren.

One more species, *Charadrius wilsonia* = *Ochthodromus wilsonia*, Wilson's Plover, was figured by Wilson, but described and named by Ord. He also figured *Rallus elegans* Aud., King Rail, confusing it with *R. crepitans*, Clapper Rail; likewise *Passerculus princeps* Mayn. Ipswich Sparrow,[1] for a male *P. sandwichensis savanna*, Savannah Sparrow; and *Turdus ustulatus swainsonii* (Cab.) Olive-backed Thrush for *T. guttata pallasii* Hermit Thrush; though in the latter instance part of the text refers to the nesting of the Olive-backed undoubtedly, the nest and eggs are closely described, perhaps for the first time; the locality however is erroneous, Mississippi being so far south of its breeding range.

Wilson found the construction of specific terms so distasteful that he often misapplied old appellations, thereby losing the honor of naming several species he had discovered, described and figured, through preoccupation of the names.

WILSON.	A. O. U. CHECK LIST.
1. *Ardea ludoviciana* Louisiana Heron	= *Hydranassa tricolor ruficollis* Louisiana Heron. (Gosse).
2. *Phalaropus lobata* Brown Phalarope	= *Steganopus tricolor* (Vieill.) Wilson's Phalarope.
3. *Falco pennsylvanicus* Broad-winged Hawk	= *Buteo platypterus* (Vieill.) Broad-winged Hawk.

[1] Stone, Alexander Wilson and the Ipswich Sparrow, Osprey, II. 1898, p. 117.

4. *Picus torquatus* Lewis's Woodpecker	= *Asyndesmus lewisi* (Riley). Lewis's Woodpecker.
5. *Muscicapa querula* Small Green, Crested Fly-catcher	= *Empidonax virescens* (Vieill.) Green-crested Flycatcher.
6. *Curvirostra americana* American Crossbill	= *Loxia curvirostra minor* American Crossbill. (Brehm).
7. *Fringilla passerina* Yellow-winged Sparrow.	= *Ammodramus savannarum australis* Maynard. Grasshopper Sparrow.
8. *Sylvia pinus* Pine-creeping Warbler	= *Dendroica vigorsii* (Aud.) Pine Warbler.
9. *Sylvia petechea* Yellow Red-poll Warbler	= *Dendroica palmarum hypochrysea* (Ridg.) Yellow Palm Warbler.
10. *Muscicapa minuta* Small-headed Flycatcher	= *Sylvania microcephala* (Ridg.) Small-headed Warbler.
11. *Turdus mustelinus* Tawney Thrush	= *Turdus fuscescens* Steph. Wilson's Thrush. Veery
12. *Turdus solitarius* Hermit Thrush	= *Turdus guttatus pallasii* Hermit Thrush. (Cab).

Laboring under the unusual disadvantage of lack of reference works and ignorant of the existence of such important productions as Vieillot's, for instance: Wilson increased the synonymy materially by renaming many species which were not new. The following are all antedated.

WILSON.	A. O. U. CHECK LIST.
1. *Sterna aranea*, 1814 Marsh Tern	= *Gelochelidon nilotica* Gull-billed Tern. (Hasselq.) 1762
2. *Sterna plumbea*, 1813 Short-tailed Tern	= *Hydrochelidon nigra surinamensis* (Gm.) 1788. Black Tern.
3. *Anas rubidus*, 1814 Ruddy Duck	= *Erismatura jamaicensis* Ruddy Duck. (Gm.)
4. *Tringa semipalmata*, 1813 Semipalmated Sandpiper	= *Ereunetes pusillus* (Linn.) Semipalmated Sandpiper. 1766.
5. *Tringa bartramia*, 1813 Bartram's Sandpiper	= *Bartramia longicauda* (Bechst.) 1812. Bartramian Sandpiper.
6. *Numenius longirostris*, 1814 Long-billed Curlew	= *Numenius americanus*, Bechst. Long-billed Curlew. 1812
7. *Picus querulus*, 1810 Red-cockaded Woodpecker	= *Dryobates borealis* (Vieill.) Red-cockaded Woodpecker. 1807.
8. *Hirundo viridis*, 1812 White-bellied Swallow	= *Iridoprocne bicolor* (Vieill.) Tree Swallow. 1807.
9. *Lurius carolinensis*, 1811 Loggerhead Shrike	= *Lanius ludovicianus*, Linn. 1766.

	Loggerhead Shrike.
10. *Fringilla socialis*, 1810 Chipping Sparrow	= *Spizella passerina* (Bechst.) Chipping Sparrow. 1798.
11. *Fringilla palustris*, 1811 Swamp Sparrow	= *Melospiza georgiana* (Lath.) Swamp Sparrow. 1790.
12. *Muscicapa melodia*, 1812 Warbling Flycatcher	= *Vireosylvia gilva* (Veill.) Warbling Vireo. 1807.
13. *Muscicapa sylvicola*, 1808 Yellow-throated Flycatcher	= *Lanivireo flavifrons* (Vieill.) Yellow-throated Vireo. 1807.
14. *Muscicapa cantatrix*, 1810 White-eyed Flycatcher	= *Vireo griseus* (Bodd.) 1783. White-eyed Vireo. 1788.
15. *Sylvia maritima*, 1812 Cape May Warbler	= *Dendroica tigrina* (Gmel.) Cape May Warbler. 1788.
16. *Sylvia minuta* 1811 Prairie Warbler	= *Dendroica discolor* (Vieill.) Prairie Warbler. 1807
17. *Turdus aquaticus*, 1811 Water Thrush	= *Seiurus noveboracensis* Water-Thrush. (Gmel.) 1788.
18. *Motacilla domestica*, 1808 House Wren	= *Troglodytes aedon* (Vieill.) House Wren. 1807

One of Wilson's Scotch biographers has attempted to prove that he was well acquainted with the British ornis before emigrating to America. This cannot be so, or he would have differentiated some of the many species and subspecies he pronounced identical with those of the Old World. America produced no ornithologist until the time of John Cassin, who was equally acquainted with the birds of both hemispheres; or in the restricted sense which might apply to Wilson were his biographer correct, before the time of Bonaparte. Yet had Wilson taken to heart the patriotic belief of Thomas Jefferson, imparted to him in a letter of April 7, 1805, he could not have gone so far wrong but that he would have increased his own record for new species, or rather new names, by one-half. Jefferson said: "I am of the opinion there is not in our continent a single bird or quadruped which is not sufficiently unlike all the members of its family there to be considered as specifically different." Those figured and described with the supposition that they were identical with the Old World species, equal in number the distinctively American species accredited to his name. The references to European writers are of course misapplied.

WILSON.	A. O. U. CHECK LIST.
1. *Sterna minuta* Linn. Lesser Tern	= *Sterna antillarum* (Less.) Least Tern. 1847

WILSON.	A. O. U. CHECK LIST.
2. *Procellaria pelagica* Linn. Stormy Petrel	= *Oceanites oceanicus* (Kuhl.) Wilson's Petrel. 1820
3. *Mergus merganser* Linn. Goosander	= *Merganser americanus* (Cass.) American Merganser. 1853.
4. *Anas ferina* Linn. Red-headed Duck	= *Aythya americana* (Eyton) Redhead. 1838
5. *Anas clangula* Linn. Golden Eye	= *Clangula clangula americana*, Faxton, 1885, American Golden-eye.
6. *Anas mollissima* Linn. Eider Duck	= *Somateria mollissima borealis* C. L. Brehm, 1830. Northern Eider.
7. *Anas niger* Linn. Scoter Duck	= *Oidemia americana* (Sw. and Rich.) 1831. American Scoter.
8. *Anas fusca* Linn. Velvet Duck	= *Oidemia deglandi*, Bp. 1850. White-winged Scoter.
9. *Scalopax gallinago* Linn. Snipe.	= *Gallingo delicata* (Ord.) 1825. Wilson's Snipe.
10. *Tringa pusilla* Linn. Little Sandpiper	= *Pisobia minutilla* (Vieill.) 1819. Least Sandpiper.
11. *Tringa alpina* Linn. Red-backed Sandpiper	= *Pelidna alpina sakhalina* (Vieill.) 1861. Red-backed Sandpiper.
12. *Tringa hiaticula* (Lath.) Ring Plover	= *Egialitis semipalmata* Bp. Semipalmated Plover. 1825.
13. *Tringa hiaticula* Lath. Ringed Plover	= *Egialitis meloda* (Ord) 1824. Piping Plover.
14. *Hæmatopus ostralegus* Gm. Pied Oystercatcher	= *Hæmatopus palliatus* Temm. American Oystercatcher. 1820
15. *Falco peregrinus* Gm. Great-footed Hawk	= *Falco peregrinus anatum* Duck Hawk. (Bp.) 1838.
16. *Strix flammea* Linn. White, or Barn Owl	= *Aluco pratincola* (Bp.) 1838. American Barn Owl.
17. *Strix otis* Linn. Long-eared Owl	= *Asio wilsonianus* (Less.) 1831. American Long-eared Owl.
18. *Corvus picus* Linn. Magpie	= *Pica pica hudsonia* (Sab.) American Magpie. 1823.
19. *Corvus corax* Linn. Raven	= *Corvus corax principalis*. Western Raven. Ridgw. 1887
20. *Corvus corone* Linn. Crow.	= *Corvus brachyrhynchos*. C. L. Brehm, 1822. American Crow.
21. *Sylvia troglodytes?* Linn. Winter Wren	= *Nannus hiemalis* (Vieill.) Winter Wren. 1819
22. *Certhia familiaris* Linn. Brown Creeper	= *Certhia familiaris americana* Brown Creeper. Bp. 1838.
23. *Sylvia regulus* Linn. Golden-crowned Wren	= *Regulus satrapa* Licht 1823. Golden-crowned Kinglet.

The following would have been antedated even had Wilson

separated them from the Old World species, which he did not do:

WILSON.	A. O. U. CHECK LIST.
1. *Anas fuligula* Linn.	= *Aythya collaris* (Donov.) 1809.
Tufted Duck	Ring-necked Duck.
2. *Anas hyperborea* Pall.	= *Chen hyperborea nivalis* (Forst.) 1772.
Snow Goose	Greater Snow Goose.
3. *Ardea nycticorax* Linn.	= *Nycticorax nycticorax nævius* (Bodd.) 1783.
Night Heron or Qua-bird	Black-crowned Night Heron.
4. *Falco lagopus* Brunn.	= *Archibuteo lagopus sanctijohannis* (Gm.) 1788.
Rough-legged Hawk	American Rough-legged Hawk.
5. *Falco haliætus* Briss.	= *Pandion haliætus carolinensis* Gm., 1788.
Fish Hawk, or Osprey	American Osprey.
6. *Strix hudsonia* Gm.	= *Surnia ulula caparoch* (Mull.)
Hawk Owl	American Hawk Owl. 1776
7. *Lanius exubiter* Linn.	= *Lanius borealis* Vieill., 1807.
Great American Shrike, or Butcherbird.	Northern Shrike.

The variations in plumage, particularly in the many species included in the families of *Scolopacidæ*, Snipes, Sandpipers, etc.; *Falconidæ*, Vultures, Hawks, Eagles, etc.; *Mniotiltidæ*, Wood Warblers; and *Turdidæ*, Thrushes, etc.; due to age, sex, season or dichromatism, were imperfectly understood at that time; therefore Wilson multiplied many of the species, not always without suspicion however.

WILSON.	A. O. U. CHECK LIST.
Tringa rufa Wils., Ad. Red-breasted Sandpiper	= *Tringa canutus*, Linn. Knot.
Tringa cinerea Brunn Ash-colored Sandpiper	
Tringa alpina Linn. Red-backed Sandpiper	= *Pelidna alpina sakhalina* (Vieil.) Red-breasted Sandpiper.
Tringa cinclus Wils., Im. The Purre	
Charadrius calidris Linn., Winter Sanderling Plover	= *Calidris arenaria* (Linn.) Sanderling.
Charadrius rubidus Gm., Summer Ruddy Plover	

WILSON.	A. O. U. CHECK LIST.
Falco velox Wils., Ad. Sharp-shinned Hawk *Falco pennsylvanicus* Wils. Im. Slate-colored Hawk.	= *Accipiter velox* (Wils.) Sharp-shinned Hawk.
Falco borealis Gm. Ad. Red-tailed Hawk *Falco leverianus* Gm. Im. American Buzzard or White-breasted Hawk.	= *Buteo borealis* (Gm.) Red-tailed Hawk.
Falco hyemalis Gm. Im. Winter Falcon *Falco lineatus* Gm. Ad. Red-shouldered Hawk	= *Buteo lineatus* (Gm.) Red-shouldered Hawk.
Falco lagopus Brunn. Rough-legged Falcon *Falco niger* Black Hawk	= *Archibuteo lagopus sanctijohannis* (Gm.) American Rough-legged Hawk.
Falco leucocaphalus Briss. Ad. White-headed or Bald Eagle *Falco ossifragus* Gm. Im. Sea Eagle	= *Haliaetus leucocephalus* (Linn.) Bald Eagle.
Strix nævia Gm. Grey phase Mottled Owl *Strix asio*, Red phase Red Owl	= *Otus asio* (Linn.) Screech Owl.
Sylvia canadensis Lath. Ad. Black-throated Blue Warbler *Sylvia pusilla* Wils. Im. Pine Swamp Warbler	= *Dendroica cærulescens* (Gmel.) Black-throated Blue Warbler.
Sylvia cerulea Wils. Ad. Cerulean Warbler *Sylvia rara* Wils. Female, Im. Blue-green Warbler	= *Dendroica cærulea* (Wils.) Cerulean Warbler.
Sylvia castana Wils. Ad. Bay-breasted Warbler *Sylvia autumnales* Wils. Im. Autumnal Warbler	= *Dendroica castanea* (Wils.) Bay-breasted Warbler.
Sylvia blackburnia, Gm. Ad. Blackburnian Warbler *Sylvia parus*, Wils. Female and im. Hemlock Warbler.	= *Dendroica fusca* (P. L. S. Muller.) Blackburnian Warbler.
Sylvia virens Gmel. Ad. Black-throated Green Warbler *Sylvia montana* Wils. Im. Blue Mountain Warbler	= *Dendroica virens* (Gmel.) Black-throated Green Warbler.

Wilson erroneously referred *Numenius hudsonicus* Lath. Hudsonian Curlew to *Scolopax (Numenius) borealis* Forst. Eskimo Curlew, an entirely different species; and an imma-

ture *Aquila chrysaetos* (Linn.) Golden Eagle, to *Falco fulvus* Linn. Ring-tail Eagle, which is a synonym of the former. In his index of the land birds, published in the preface of Volume VI, and covering the first seven volumes, *Falco niger* is recognized as a variety of *F. lagopus* (=*Archibuteo lagopus sancti-johannis* (Gmel.) American Rough-legged Hawk); also *Loxia rosea* Wils. corrected to *Loxia (Zamelodia) ludivicana* Linn. Rose-breasted Grosbeak.

It is also to be observed that Wilson repeatedly bestowed upon two separate species, knowing them to be distinct, the same title; but this occurred during the last two or three years of his life when he was nearly engulfed in work, worry and ill health. Had he lived, he would undoubtedly have corrected many of his errors in the final index. Ord's attempts in this direction in a later "reprint" became confused with the original edition and caused some trouble later on. *Charadrius hiaticula* and *Tringa hiaticula* are undoubtedly homonyms, not only because they apply to distinct species of the same genus, but from the fact that both Bonaparte and Ord agree in the belief that *Tringa* was a typographical error.

WILSON.	A. O. U. CHECK LIST.
Charadrius hiaticula, Linn. Ringed Plover, pl. 37, fig. 3, v, 1812	= *Aegialitis meloda* (Ord.) Piping Plover.
Tringa hiaticula (Linn.) Ring Plover, pl. 59, fig. 3, viii, 1813	= *Aegialitis semipalmata* (Bp.) Semipalmated Plover.
Rallus virginianus, Linn. Rail, pl. 48, fig. 1, vi, 1812	= *Prozana carolina* (Linn.) Sora.
Rallus virginianus, Linn. Virginia Rail, pl. 62, fig. 1, vii, 1813	= *Rallus virginianus*, Linn. Virginia Rail.
Falco pennsylvanicus, Wils. Slate-colored Hawk, pl. 46, fig. 1, vi, 1812	= *Accipiter velox* (Wils.) Sharp-shinned Hawk.
Falco pennsylvanicus, Wils. Broad-winged Hawk, pl. 54, fig. 1, vi, 1812	= *Buteo platypterus* (Vieill.) Broad-winged Hawk.
Sylvia pusilla Blue Yellow-backed Warbler, pl. 28, f. 3, iii, 1811	= *Compsothlypis americana* (Linn.) Parula Warbler.
Sylvia pusilla Pine Swamp Warbler, pl. 43, f. 4, v, 1813	= *Dendroica caerulescens* (Gmel.) Black-throated Blue Warbler.

Wilson's Black-capped Warbler received the name of *Muscicapa pusilla* also; in fact *pusilla, minuta, carolinensis, melodia, rufa,* and a few others, seem to have been favorite specific terms with him. *Sylvia minuta* Prairie Warbler, was antedated by *Dendroica discolor* (Vieill.); and *Muscicapa minuta* (another Warbler presumably), preoccupied. Mislead by Bartram, the Snowbird (Slate-colored Junco) which he called *Fringilla nivalis*, had been for a time confused with *Emberiza* (*Plectrophanax*) *nivalis* Snow Bunting, but the former was changed to *F. hudsonia* in the index, Vol. VI. Wilson's specific names were mainly descriptive, and for that reason it is regrettable that more of them are not available. Personal appellation though not a novelty, had not come into vogue until the time of Bonaparte and Audubon. One can admire the sturdy independence of Wilson in this respect. One species only, which he confidently thought new, did he name in honor of a friend and patron of science; *Tringa bartramia* Bartram's Sandpiper, and this proves to be antedated one year by Bechstein's *T. longicauda;* Lesson, however, in 1831 has placed it in a separate genus, which he calls *Bartramia*, hence we have after all, *Bartramia longicauda* Bartramian Sandpiper.

Wilson's lack of enthusiasm in the construction and application of technical names, lead Bonaparte to publish his Observations on the Nomenclature of Wilson's Ornithology,[1] in which eight species are renamed, three in honor of the author, none of which stand; *Falco wilsoni* (=*Buteo platypterus*), *Sylvia wilsonii* (=*Sylvania* (?) *microcephala*)' and *Turdus wilsonii* (=*Turdus fuscescens*). Of this paper, which was read by the author in installments at the Academy meetings, Coues has commented as follows: "A critical commentary on 22? of Wilson's species, *seriatim*, and as such, one of the most notable and in some respects the most important of early American papers." And again: "This valuable critical commentary introduced a new feature—decided change in nomenclature from the sifting and rectification of

[1] Jour. Acad. Nat. Sci. Phila. III-V, 1824-25.

synonymy. It is here that questions of synonymy—today the bane and drudgery of the working naturalist—first acquire prominence in the history of our special subject. There had been very little of it before, and Wilson himself, the least 'bookish' of men, gave it scarcely any attention." [2]

In his paper Bonaparte remarks: "Wilson, though one of the most acute and accurate of Ornithologists, one who has rendered the greatest services to science, by describing, in his attactive style, the manners and habits of American birds, and who has corrected so many errors of former writers, has nevertheless, unavoidably committed some himself, principally of nomenclature, which are, in a great measure, attributable to a want of the necessary books and opportunities of comparison. So far, therefore, from being censurable for these errors, we are surprised that he has not committed more. . . . I do not consider myself censurable for the frequent repetition of the name of this great ornithologist, as applied to species in different genera; it is a tribute of respect which I conceive justly due to one who has done so much for the benefit of my favorite science."

It is scarcely within the province of a biographer to follow the tortuous channels of thought and research, whereby Bonaparte and Ord attempted the correction of Wilson's errors in nomenclature; nor is it surprising that so few of the terms as then constructed, are in use today. Wilson erroneously placed the Whooping Crane with the Heron; the Chimney Swift with the Swallow; the American Redstart, Hooded, Canadian, Black-capped and Small-headed Warblers, the Vireo and the Blue-gray Gnatcatcher, with the Flycatchers; the Bluebird, the Kinglets, House and Winter Wren, with the Wood Warblers; the Yellow-breasted Chat with the Manakins; the Black and White Warbler, Carolina and Long-billed Marsh Wrens, with the Creepers; and the Oven-bird and Water-thrush with the Thrushes. In most instances he followed his predecessors, or at least one of

[2] Bibliographical Appendix, Birds of the Colorado Valley, 1878, p. 608.

them, in error; *Pipra polyglotta*, however, was an unhappy classification exclusively his own, about on a par with some previous works, where the Chat has been variously placed with the Flycatchers, Tanagers or Chatterers. On the other hand he straightened out the tangle in which European writers had involved the two Eastern Orioles; Bonaparte has declared that no species of birds had occasioned so many errors, and so great a multiplication of nominal species. His knowledge of the Sparrows and Warblers was really wonderfully full for that time. Unquestionably, Dr. Shufeldt did not intend to create a wrong impression when he wrote: "In summing it up then, it will be seen that Wilson knew of but thirty species of birds that belong to the family *Fringillidæ*, while in our Check List of 1895 the same family is represented by no fewer than eighty-nine species and seventy-four subspecies—163 birds in all."[1] One of our best authorities has found that there are only thirty-six forms recognized today in the section of the country covered by Wilson.

According to Coues, Wilson gave faithful descriptions of about 280 species, and colored illustrations of most of them, —78 indicated as new according to his Bibliographical list; Ord calculated 278 species, following Wilson's catalogue, 56 being new; Bonaparte places the total number at 270 species; and Baird, 257 species, not including *Melangо gallopavo* Wild Turkey, and *Gracula barita* Boat-tailed Grackle, mentioned in the index of volume vi. The whole number of birds figured is 320. Actual number of species both figured and described is 262, making a total of 268 species made known by their figure or description, or both; excluding the three species figured but not separately distinguished, 39 were new; and adding to this number the 23 species and subspecies which he probably described sufficiently to differentiate from the European, though he did not give them new names, gives a total of 62 newly described species and subspecies. When one realizes that Europe had been drawing

[1] American Sparrows and Their Kin, Shooting and Fishing, XXI, 1897, pp. 307-308.

from the region of his researches for many years, it will be seen that this is a wonderful showing in comparison to the really small grand total; and more extraordinary still, all of his birds are identifiable at the present time, except a single species. His English names have always been popular, and the majority of them are very appropriate, acceptable with occasional modifications through all these years, without fixed rule or reason

But the correct delineation of several hundred species of birds nor the exposition of a few score of nondescripts, do not begin to express the services of Alexander Wilson to American Ornithology. His work was far more than a mere descriptive and illustrated catalogue of the birds he had found. He ennobled science and literature without sacrificing that charming simplicity of expression which reached and educated the people as few works of like nature have done. Ornithology cannot begin to measure his services in creating the proper sentiment in this country. "No other work on American ornithology has been so much talked and written about as this; and the time for comment on its character is long gone by. The 'melancholy poet-naturalist' occupies a place as changeless as the hills, and wholly peculiar. He stands toward American ornithologists in a position corresponding somewhat to that which is occupied in England by White of Selbourne, in Germany by Bechstein, and I will add, among anglers by Izack Walton." [1]

In later complimentary honors, Wilson has not fared so badly. One genus, *Wilsonia* Bonaparte, was created in 1838, and has been recently revived. Of the thirteen or more specific terms named in honor of Wilson, two survive—*Ochthodromus wilsonia* (Ord) Wilson's Plover, and *Asio wilsonianus* (Lesson) American Long-eared Owl. In the vernacular names he has fared still better:—Wilson's Petral *Oceanites oceanicus*, Wilson's Phalarope *Steganopus tricolor*, Wilson's Snipe *Gallinago delicata*, Wilson's Warbler *Wilsonia pusilla*, and Wilson's Thrush *Turdus fuscescens*.

[1] Coues, Birds of Colorado Valley, p. 600.

Additional evidence of the thoroughness of the Ornithologist can be found in his constant reference in his work to carefully numbered specimens placed in Peale's museum. Without the facilities or inclination for personal hoarding, he had every right to suppose that the birds he looked upon as his types, would be carefully preserved for a practically indefinite period in the public museums of his adopted city or country; that they were not is neither creditable to Philadelphia or the country at large.

SUMMER BIRDS OF THE SOUTHERN EDGE OF WESTERN ONTARIO.

W. E. SAUNDERS.

On June 6, 1909, Mr. J. S. Wallace, of Toronto, began with me a walk of exploration along the southern edge of Western Ontario. We left Amherstburg, at the southwestern corner of the province, at day break, and on the 10th, the walk ended at Blenheim about fifty miles further east. The object of the trip was to ascertain whether certain southern forms which breed in moderate numbers on Point Pelee, extended through the country near by.

The species sought were, the Chat, Cardinal, Carolina Wren, and Bewik's Wren We were successful in finding the first three, and although their numbers were small, yet the distribution was wide enough to convince us that the Chat and the Carolina Wren at least were regular breeders through a considerable portion of the territory covered. In addition to these, we found the Dickcissel near the east end of the journey where two males were in full song in one field, but we failed to find any trace whatever of the Lark or the Henslow's Sparrows, both of which were expected.

The taking of the first specimens of the Acadian Flycatcher for Canada fully counterbalanced any disappointment we may have felt at missing the species mentioned and brought the trip to a very successful close.

A walking trip has certain advantages in the way of freedom of movement over any other method of locomotion that may be adopted, but of course progress is slow. One should not exceed 8 or 10 miles of woods and fields in the course of a day and any additional distance had to be covered on road or railroad track, but in the nesting season when the birds are in full song, one's ears enable him to cover the ground within ear shot with a fair degree of thoroughness, even though he may keep walking all the time. After leaving the southwest corner of the peninsula, we had proceeded only three or four miles before we heard a Carolina Wren;

this bird had already been noticed in summer at two or three other localities in Ontario in other years, and one was heard singing near London on June 5, 1909, and may possibly be nesting there. Another of this species was heard about three miles from the east base of Point Pelee, which strengthens the conviction that they are to be found more commonly near the base of the Point than elsewhere on the mainland.

At six miles southeast of Amherstburg we located another Chat, in fact we heard two at once, but the note of the second one was so peculiar that it necessitated special investigation to determine the author. The first one was accompanied by its mate and they were doubtless nesting in the scrub at that point. These birds are rather rare on Point Pelee and we were not very confident of finding them on the mainland, but at Renwick, about forty miles farther east another one was noted in a somewhat similar location, where it was doubtless nesting.

Another note of interest was the discovery of a breeding ground of the Piping Plover. About six or eight pairs of these birds were scattered along the lake shore beside the marsh near the mouth of the big creek a few miles from the Detroit River. One nest was found with four nearly hatched eggs and the other birds were manifestly concerned at our presence. Favorable nesting grounds for these birds are not to be found very often. The others reported so far for the north shore of Lake Erie are Point Pelee, the Rond Eau sand bar and the Long Point. It is to be doubted if there are more than two or three other localities at which these birds are found in the nesting season, while on Lake Ontario the Toronto island is the only point that I know of where the species nests.

The Savannah Sparrow which is an abundant bird at London was rare throughout all the territory covered and was everywhere outnumbered by the Grasshopper Sparrow of which we recorded as many as 10 in one day.

The Rough-winged Swallow was noted in two places, single birds only, the other being doubtless on the nest. As

this bird requires the face of a sand bank beside the water for nesting, it was quite a surprise to find even two, as the country is almost exclusively clay. A colony of bank swallows was found near Blenheim in a pit, but no Rough-wings could be found among them. The Short-billed Marsh Wren was noticed at only one point where a male was singing. It was immediately beneath an Eagles' nest, which we did not care to disturb and therefore did not spend much time with the wren as the eagle was very much concerned at our presence near its young, which could be seen when one was not too close to the nest. The Cardinal was expected perhaps more confidently than any other of the birds sought owing to its comparative abundance on Point Pelee, but it was not until the last day within two miles of Ridgetown that one was heard whistling from a treetop by the road-side.

The Dickcissel was formerly common throughout Western Ontario at almost every point that I had the opportunity of visiting, but during the last ten years they have vanished almost completely, and no trip had disclosed any of them in the last five years. One or two years ago Dr. Walker reported that he believed he had found a pair near Ridgetown, but I was unable to visit the locality to confirm the record. It was therefore a great satisfaction to find two males singing in a field near Blenheim, and as their song is so easily recognized and has such good carrying power, it seems as though they must be very rare indeed through the territory travelled. It may be that we are about to see them become more common again as is the custom with very many of our birds. In fact I have been surprised in recent years to see what a large number of the less common birds show great differences in their numbers from year to year.

An interesting Black Tern was seen near the west end of our walk. It was one which had carried over the young plumage to the present year and as nearly as we could tell, the colors were as usual, but the bird was flying around with a lot of normal plumaged adults, who were evidently concerned at our near approach and were doubtless nesting.

The Green Heron is found rather commonly in many parts of Western Ontario and appears to be spreading, but on this walk, we saw only three and those all on the first day. It is true that during that day we passed through more wet lands than in the latter part of the trip, but we were constantly near a good deal of suitable ground where these birds were not seen.

Tree Swallows were also common on the first day, but after that not one was observed. These birds have become practically extinct in the London district within ten years, while in the more distant past they were quite common, nesting in fair numbers even in the business parts of the city of London, but while our Martins have apparently held their own, the Tree Swallows have vanished.

When passing through a piece of woods about forty miles east of the Detroit River, I saw a Hummingbird doing the Pendulum Play. After two or three oscillations in front of a shrub he flew through it and chased out his mate, she lit very close by and he immediately began again, swung ten times and then vanished.

FIVE NOTES FROM THE UPPER MISSISSIPPI VALLEY.

ALTHEA R. SHERMAN.

KING RAIL, *Rallus elegans*. The conduct of one of this species, that visited our yard during the forenoon of April 15th, was out of the ordinary. The ground everywhere had been made very muddy by a heavy rain on the previous day. At 7:45 o'clock the King Rail was first seen walking in the middle of the street. Having traveled to the northern limit of the yard, it turned and came under the fence into the enclosure; leisurely examining the ground, it passed within six feet of the house and walked out through the front gate, that chanced to stand open. In a similar manner it spent the next four hours, cover-

ing about three acres of a hillside, in its search for food. A portion of the time it spent among the raspberry bushes, the rest of the time it was moving about through the orchard and pasture with all the fearlessness and unconcern of a chicken that was in its own home.

Northern Pileated Woodpecker, *Phlœotomus pileatus abieticola*.—This species cannot be very rare in this vicinity since at least a half dozen of my neighbors have told me that they had seen it in the woods in recent years. This has happened usually in the winter when they were cutting wood. I had the good fortune to see one on June 15 as it sat for several minutes on a dead limb about fifty yards away.

Red-bellied Woodpecker, *Centurus carolinus*.—On April 16th while on a farm near Steuben, Wisconsin, I saw a Red-bellied Woodpecker come to get its breakfast of corn from ears that were hung on the frame of the wind-mill as food for the birds. The owner of the place said that it had been a regular boarder all winter. This place must be near the northern limit of the range of this species. It is thus given in "The Birds of Wisconsin" by Kumlien and Hollister.

Cardinal, *Cardinalis cardinalis*.—In the Wilson Bulletin for June, 1908, I reported having seen in the previous April a pair of Cardinals at the mouth of Sny Magill Creek. So far as known these were the first of this species to be identified in this county. Late in December, 1908, the family of Mrs. M. A. Jordan, of McGregor, Iowa, was startled one morning by a rare and radiant vision, that of a brilliantly colored Cardinal standing in the freshly fallen snow near the lunch table spread for the birds. He soon became a regular boarder, fighting the English Sparrows that stole the corn he had cracked, and showing fear of the Blue Jays. His roosting place was discovered to be in a clump of evergreens a few rods away. He continued to come for food until the early days of April. Mrs. Jordan, who has resided in McGregor for more than fifty years, is confident that this was

the first Cardinal to visit that place. This is corroborated by other old time residents. The village of McGregor is situated on the banks of the Mississippi River, six miles north of the spot where I found the pair in April, 1908.

There are other instances of the northern advance of this species in this locality. In Wisconsin, almost due east from McGregor, lie the villages of Blue River and Boscobel on the banks of the Wisconsin River. In the former place a pair of Cardinals spent last winter, (the first of the species ever seen in that region,) and in the latter place about the middle of March a male Cardinal was seen by my informant, who has known the species in the south. All of these places are north of latitude 43 degrees and their winter temperature is considerably colder than that of Boston in whose neighborhood the advent of the Cardinal has awakened much interest.

A Wet Acre.—May 5 was a day of unusual interest. At 11:00 a. m. the temperature was 82 degrees in the shade, and there lay in sight the remnant of a snow-bank, the last of our May-day snow storm. Migrating birds came in large numbers. Just beyond the edge of our back lots lies a wet meadow, scarcely an acre in extent. Here on that day, partly screened by a fence, one could see at one time two Wilson Phalaropes, four Least Sandpipers, one Greater Yellow-legs, twenty-two Yellow-legs, three Killdeers, and one Golden Plover, all distant less than ten rods, while a little outside of this limit was a flock of Blackbirds numbering upwards of a hundred; they were mostly Red-wings with a few Rusty Blackbirds and Bronzed Grackles. Near the Blackbirds were seen a Savanna Sparrow and a Prairie Long-billed Marsh Wren. Following day brought to this small area, the Rails, Virginia and Sora, Solitary Sandpipers and a Florida Gallinule. The Gallinule was crippled in one foot, a like misfortune had befallen a Yellow-legs that remained here several days as did the Gallinule. The Wilson Phalaropes appeared to be mates, and one of them had an injured leg. They were in the neighborhood six days. Their light plumage was so conspicuous

against the dark earth that one grew curious as to the place chosen by them for spending the night. On one night this was found to be in the only running water the meadow offered, a shallow rivulet scarcely four feet wide. Standing in this water their color was completely obliterated in its light shining surface that reflected the sky.

NEW RECORDS FOR MIDDLE NORTHERN OHIO

LYNDS JONES.

Bachman's Sparrow, *Peucaea aestivalis bachmanii.* — On May 14, 1909, on an all day trip to Cedar Point, a male in full song was found a quarter of a mile east of the Lake Laboratory. The bird was perched on a telephone wire near where the line enters the sand spit, singing lustily. It stopped only to fly to the ground to feed, then mounted to the wire again by way of bushes which were growing in the center of an old sand 'blow-out' which is now covered with grass. The bird permitted an approach within fifteen feet, showing no concern at the intrusion. Again on the 17th, the bird was found again at the same place, singing as lustily as before. If I mistake not this is the farthest north record for this species.

Bewick's Wren, *Thryomanes bewickii.*—On May 22, 1909, while on an all day bird tramp with Rev. W. L. Dawson, he called my attention to a singing bird of this species in the village of Berlin Heights. There was no mistaking the song. The presence of this wren has been suspected near Oberlin on three occasions, but in the absence of song and without specimens it has not been accredited to this region until now.

The presence of these two species tends to corroborate my statements that there is a decided northward movement of the bird fauna over Ohio.

Notes on the "Osteology of Birds:"—Under the title of *Osteology of Birds* the New York State Museum published for the writer a volume, with many Plates and Figures, in which the *Accipitres*, the *Gallinæ*, the *Anseres*, and certain *Coccyges* were very fully treated. It appeared last spring, and has been very favorably received by ornithologists, especially in Europe, where a greater attention is paid to such subjects than in this country. In this work, up to date, my attention has been called but to two points demanding correction or comment from me. Professor E. Regalia, of Genoa, Italy, has shown that an error has evidently been made in the length given for the *tibio-tarsus* in *Branta canadensis*, which is stated to be in my book 7.3 centimetres, or the same that is given for the *femur* in the same specimen. He has a skeleton of that goose in his own collection, wherein he states the *tibio-tarsus* has a length of 164 millimeters, and doubtless this is correct, the latter bone being more than double the length of the *femur* (p. 328). This error probably occurred by my quoting the same measurement I had made for the thigh-bone for the bone of the leg, and evidently overlooking the correct measurement made of the latter, both being before me at the same time. Professor Regalia is entitled to my thanks for having pointed out this slip.

The distinguished Italian ornithologist Count Tommaso Salvadori of the Royal Museum of Zoölogy of Turin, Italy, writes me under date of June 26, 1909, as follows: "As regards the classification of the *Anseres* you have not mentioned the one I proposed in Vol. xxvii of the Catalogue of Birds. I have there introduced a new subfamily, the *Chenonettinæ* (page viii, 128) the members of which have the external appearance of Geese, but the males have a larnyx furnished with a *bulla ossea* as in *Anatinæ*. My scheme may be endorsed from what you say about the skull of *Chloëphaga poliocephala* which, according to you, differs considerably from the skull of *Bernicla* or *Branta* and rather seems to slightly approach the skull of some of the Ducks in certain characters. The subject appears worthy of being considered."

Count Salvadori is undoubtedly correct in this matter, and if the present writer ever publishes another classification of Birds his subfamily *Chenonettinæ* will most assuredly be recognized. The opportunity has never been mine to examine more than the skull in *Chloëphaga*, and had the fact been known to me that the males in that species possessed a bony labyrinth at the pulmonic extremity of the trachea, a subfamily would surely have been created to include them. It is evidently a clear case of *lapsus memoriæ* on my part that this had already been done in the *Catalogue of Birds* by Count Salvadori in his scheme of classification of Birds.

R. W. SHUFELDT.

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EDITORIAL.

Lack of necessary material for making the desired pictures has resulted in necessary postponement of the second paper on the Falcones until the December issue. Specimens of some of the rarer forms are not easy to secure.

The editor would like to get into communication with persons who have ready access to the breeding places of wild ducks. Any information which will lead to his securing fresh eggs suitable for hatching or ducklings will be thankfully received. Only eggs or ducklings taken in the wild are desired.

This is the season when a sharp lookout should be kept for the departure of our nesting birds for their winter homes. Many of the birds are so seclusive that it is difficult to find them in their retreats. There is hardly a species whose time of departure southward is known with sufficient accuracy. Some leave their nesting places to gather in companies elsewhere in the region, delaying their departure for a considerable time. Which species are they?

Do most of the song birds have an autumn period of song after the completion of the molt? Among the autumn singers is flight song frequent, or does it occur at all? Are the autumn singers

adults with unusual vigor or birds of the year? Is the autumn song period ever accompanied by a period of mating phenomena? These and other questions relating to the same subject are questions well worth careful study. It is entirely possible that their careful consideration might throw light on other phases of bird life.

FIELD NOTES.

ILLINOIS NOTES.—The Cardinal (*C. cardinalis*) at Glen Ellyn. It is with pleasure that I am enabled at last to add the Cardinal to our local list. For years it has been known to nest in the county and is now regularly found at points in the adjoining county of Cook to the eastward; so, that so far as northeastern Illinois is considered, the northward movement of this species is a well-settled fact.

Possibly it may have occurred here sooner, for what has been described to me as seen by others was unquestionably this bird. Still, for the writer, its status has remained undetermined until recently, when on the 15th of August last the cheery notes of the male bird were heard in our woods for the first time. On the day following they were heard again, soon after which the author of same must have disappeared. Of the Cardinal's song I feel absolutely sure, and believe there can be no doubt as to the correctness of this record.

THE CAROLINA WREN (*Thryothorus ludovicianus*) AT HENNEPIN.—The expansion or northward extension of the range of the Cardinal has been attended it seems by a like one on the part of other species as well; for example, here in Illinois we may mention the Carolina Wren and Bell's Vireo, the latter having been found nesting at Joliet.

There is a possibility also of a similar movement on the part of Bewick's Wren, while the facts concerning *T. ludovicianus* have been noticed in other parts of the country.

Writing to me under date of April 21, 1909, our fellow member, Hon. R. M. Barnes, of Lacon, Marshall County, this State, has this to say, in relation to the latter:

"Yesterday at Hennepin, twenty-one miles north of here, I made a discovery which was entirely new. I saw sitting in the yard adjoining the public park and also adjoining the business part of the town, an adult Carolina Wren, and made a very careful investigation of the singer—stayed with him at least a half an hour. I have never seen the bird before in the State of Illinois."

It may be of interest to state in this connection that Ellen Drummond Farwell has recorded in "The Auk" (Vol. XIX, p. 209) the

occurrence of the Carolina Wren for two consecutive seasons at Lake Forest, Lake County, in the extreme northeast corner of the state; and more recently, the past season, the bird has been reported as nesting at Worth in Cook County, not far from the big metropolis on the Lake—Chicago.

Glen Ellyn, Ill. BENJ. T. GAULT.

A Bohemian Waxwing (*Ampelis garrulus*) in Ohio.—Dawson says of this bird that there are no Ohio records for many years. Perhaps he bases this on Wheaton's similar statement. In view of this I think it may be of interest to record the following facts.. Two ladies of our household, both bird students, saw and heard, on February 23, a Bohemian Waxwing. It came into the yard near enough to the house for a close observation, so the distinguishing characteristics were well noted. They believe, after hearing its note, that one of them had been about on the Sunday previous. [A few weeks before a small flock of Cedar Waxwings came into a honeysuckle vine by our porch and were about for a short time.]

Judge Metcalfe, of this place, says that a few years ago a number of Bohemian Waxwings were about for several days.

ORANGE COOK.

Chardon, Ohio, April 17, 1909.

The Black-crowned Night Heron in Ohio.—In his "THE BIRDS OF OHIO," W. L. Dawson gives the range in Ohio of the Black-crowned Night Heron (*Nycticorax nycticorax nævius*, Bodd.) as a "Not common resident and migrant. Of local appearance only." I wish to call attention to a restricted locality where it has been seen in considerable numbers. It is along the Great Miami River, near Troy, Miami County, Ohio. The place it most frequents is about two miles southeast of Troy, and is known as Long Pond. This Long Pond is probably an ox-bow loop formation. Immediately below this is a low island which is very difficultly accessible. This whole vicinity is rather secluded, and forms an ideal place for these birds.

Two adults were seen here in September, 1905. An immature female was killed near here on Octiber 11, 1905, by W. A. Haines. It was mounted, and is now in the Troy High School taxidermy collection. About twenty-five birds, mostly immature, were seen here at one time in August, 1906. An immature female was killed here on August 24, 1906, by Raymond Boller. It was mounted, and is now in the collection in the Sidney, Ohio, Public Library. An adult specimen was taken near here in the autumn of 1907. It was mounted, and is now in the Troy High School collection. Other specimens were taken, but these will suffice.

Sidney, Ohio. G. CLYDE FISHER.

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OLD SERIES VOL. XXI. NEW SERIES VOL. XVI.

ALEXANDER WILSON.

VII. Biographies, Portraits and a Bibliography of the Various Editions of His Works.

BY FRANK L. BURNS.

The reluctant conviction that a complete and unbiased biography of Alexander Wilson will in all probability never be written, has inspired the present series of papers. A combination of circumstances, of which his early demise, the dazzling lustre of his successor's artistic genius, the apparent difficulty of interpreting his diffident personality and the dearth of material, are factors in a task at no time easy.

The city of Philadelphia was not only the scene of Wilson's labors, but at that time the literary center of the country, and its libraries are peculiarly rich in the material of the period, some of which perhaps, I have the pleasure of rescuing from oblivion. If it is at all possible for a man to be so, Wilson was emphatically and absolutely self-made! While he did not discover his true vocation until within the last ten years of his life and the work, in which must rest his claim to distinction, was crowded in those few years, yet no other ornithologist in America has accomplished anything approaching it in so brief a time. Lacking almost everything at the beginning but determination, he brought the undertaking to a successful issue. Audubon's labors, with almost all the acces-

sories at his command, extended over half a century. De Wit Clinton, President of the Literary and Philosophical Society of New York, said in 1814: "The life of Alexander Wilson — a man whom we esteem and an author whose work will always occupy an important rank among the writings on natural history — exhibits the complete triumph of genius over the want of education, and of persevering industry over the evils of poverty. Without any other reliance than on his own faculties, and with a force of exertion which nothing could check or retard, he has obtained a celebrity in science to which few men in this country can aspire; although many may be more highly favored with the endowments of genius, and more extensively gifted with the advantages of early education and the bounties of fortune. The life of Wilson shows, conclusively, that the temple of fame is open to the most humble individual in the community, if he only attempts it with zeal and industry and with judicious selection of the part which he intends to act on the theatre of the world." [1]

It is impossible to estimate the great services of Wilson to the public. The literary and the nature student find in his ornithological writing the same charming simplicity and truthfulness so keenly enjoyed in the classical works of Izaak Walton and Gilbert White; his classification and nomenclature may become obsolete, but his delightful life histories of the birds never become old and uninteresting. Space will not permit an extended bibliography of his biographies, but brief mention will be made of the most important ones.

Cromek's brief sketch of Wilson's life, appearing in Select Scottish Songs, 1810, is probably the only one published during his life. Directly after his decease, in bringing out his final volume of ornithology in 1814, George Ord published his life, which also appeared the same year in the Portfolio preceded by a lengthy memorial by the editor, Oliver Goodfellow; and later in Ree's Cyclopædia, Vol. XL. Ord subsequently extended it by adding much of Wilson's correspondence for the second edition of the ninth volume, the title of

[1] American Medical and Philosophical Register, 1814, Vol. IV. p. 514.

which he altered in 1825. It also appeared separately in a thin 8vo. book dated 1828 and published by Harrison Hall; a reprint or separate of the 1828–1829, "Ord," or "Collins" edition of Wilson's Ornithology — of which the 1817 and 1878 Porter and Coates' editions are fac-simile. Despite its many faults, Ord's "Sketch of the Life of Alexander Wilson" is the chief source of American data for later biographies; and with the modest prefix to an 1816 edition of his early poems, now exceedingly rare, ascribed to Thomas Crichton; and separately at greater length in 1819, originally appearing in the Weaver's Magazine and Literary Companion of the same year; formed almost all the knowledge of subsequent writers. "Good old Thomas Crichton," as some of Wilson's biographers called him, was an old Paisley schoolmaster friend, honest and true. His first paper was entitled "Account of Life and Writings," and his second "Biographical Sketches of the Late Alexander Wilson." The Belfast edition of 1844 informs us that the 1816 edition was published by Hugh Crichton, bookseller, Paisley, and edited by Dr. Whyte, who, dying before the work was far advanced in the press, it was completed by Dr. Robert Watt, his partner in business.

In 1831, Rev. Dr. W. M. Hetherington contributed a "Memoir" for Jameson's edition of Wilson's American Ornithology; and a year later Sir William Jardine's edition contained "a life," the facts of which were mainly if not wholly derived from earlier writers, and superior in many ways to most of the later productions.

William Peabody's "Life of Wilson," published in 1839, can be had for a trifle — my copy cost me twenty cents. He comments specifically and at length on the ornithological writings of Wilson, but offers no new material. Of the shorter sketches, William Anderson's brief notice in The Popular Scotish Biography, 1842, is one of the best. In 1844, John Henderson brought out "The Political Works of Alexander Wilson: also his Miscellaneous Prose Writings, Journals, Letters, Essays, etc.," with an extended memoir of his life and writings said to be by Thomas Smith Hutchinson, though the

editor does not reveal his identity in the work. This is known as the Belfast edition, priced at 6s. 6d., and now quite rare. A cheaper edition was apparently issued by the same publisher at about the same date, and a larger edition in 1853.

Jardine's "Memoir" appearing in the fourth volume of the Naturalist's Library, 1843, priced at 4s. 6d., was taken from the material incorporated in his 1832 edition. Duyckinek's Cyclopædia of American Literature, Vol. I., 1856, contains an excellent short life in which appears some new material, notably evidence of the blamelessness of President Jefferson in relation to the Pike expedition application, though we are sorry that the writer should give countenance to the discredited blackmailing story alleged to have occurred before Wilson departed for America.

Seymour's "Self Made Men," 1858, contains an excellent short biography; and Mrs. C. Lucy Brightwell's "Difficulties Overcome, Scenes in the Life of Alexander Wilson," 1861, would be very readable were it not disfigured by an antiquated type, though it contains nothing new. This little book was long a desirata with Jos. M. Wade, the Wilson bibliomanioc, twice catalogued in Europe and both times lost to him. In 1863, Allen Park Paton contributed some most excellent new material in a pamphlet of 32 pages, priced at one shilling, entitled "Wilson the Ornithologist, a New Chapter in His Life." Sir Rom de Camden's "Memorable Facts in the Lives of Memorable Americans," appeared in Potter's American Monthly and Illustrated Magazine for 1875; and in 1876, inspired by the interests of the publishers of the latest edition of Wilson's Ornithology, Dorsey Gardener gave an admirable sketch of "Wilson, the Ornithologist," in Scribner's Monthly. The same year appeared the Rev. Alexander B. Grosart's two stout little volumes of "Poems and Literary Prose," with a "Memorial-Introduction," quoted at 7s. 6d. Although it neglects the ornithological for the literary side, following the unjustly condemned Belfast edition, which it much resembles, the make-up is admirable, despite frequent errors of judgment and the partiality of a Paisley resident. Also mention must be made

of James Grant Wilson's "Poets and Poetry of Scotland," which contains some original matter from Horace Binney, an eminent lawyer of Philadelphia.

Some years prior to this, the later Joseph M. Wade, editor at one time or another of Familiar Science and Fanciers' Journal, Truths of Nature, Ornithologist and Oologist, Fibre and Fabric, and the Boston Journal of Commerce, began the accumulation of an astonishing amount of published and unpublished matter relating to our pioneer ornithologists. He not only possessed practically all editions of Wilson's poetical and ornithological works, biographies, etc., but the author's own set of the American Ornithology — unbound sheets interleaved with the original manuscript; also a large part of the original drawings, of which some show the rubbing process by which they were transferred to the engraver's block; many unpublished letters, a few unpublished poems, receipt book, manuscript prospectus for a proposed edition of his Ornithology in octavo, and other matter, including drawings of that famous old Grey's Ferry schoolhouse, the adjoining old blacksmith shop, and portrait of the lady with whom he boarded. He had even acquired Wilson's collecting gun! Dr. Coues attests to the wealth of this collection in his "Behind the Veil," Bulletin of the Nuttall Ornithological Club, 1880. This persistent search and steady accumulation of material was avowedly for a definite purpose. It had long been a hobby, and, indeed, a mania, with Wade, and he was so intensely interested in anything appertaining to Wilson that he once declared him to be without an equal! From time to time — 1880 to 1893 — there appeared first in the old Oologist, and afterward in the Ornithologist and Oologist, a few lines, a paragraph or a column, as an earnest of something better; yet the true life of Alexander Wilson seemed indefinitely delayed.

On November 2nd, 1890, Henry D. Minot, the talented ornithological writer and ardent admirer of Wilson, made arrangements with his venerable friend whereby this valuable material was to come into his possession as soon as the transfer could be made; it being Minot's desire and intention to

write a biography that would do justice to his subject whenever he could have more leisure for study. The transfer never took place, as Mr. Minot was killed in a collision on the Pennsylvania railroad at New Florence, Pa., less than a fortnight later. The collection, formerly hoarded with the jealous care of a bibliomania, remained unexamined for twelve or fourteen years, now more than ever exposed to the danger of damage and obliteration. Mr. Wade informed me in 1898 that the matter had passed out of his life and was no longer fresh in his mind. Any one might have purchased these priceless relics at about this period; the owner suggested that the collection could be broken up and sold piecemeal at an advantage to the purchaser — a chance of a lifetime, but an eventuality not at all pleasing. Harvard University would have secured it for the nominal sum of $1,000 but for the fact of its desire for an inventory, which the one-time enthusiast now found too exacting in the midst of a very busy life and fullness of years to give. Mr. Wade passed away at a ripe old age about five years ago, and the bulk of the Wilsonia is temporarily in the hands of a young ornithological friend, who thoroughly appreciates the trust; and the most of the Audubonia, of which he claimed to have more perhaps than any decendant of John James Audubon, is held by his executor. I am informed that the estate may not be settled for years to come. It is the earnest wish of some of the late Joseph M. Wade's friends that the entire collection should finally rest in the museum at Cambridge, and that the unpublished matter, so long buried, be given to the public, if it proves of sufficient interest or merit.

Henry Coyle's "Alexander Wilson, the Great Naturalist," appeared in the "Chautauquan," 1893, but contained nothing new.

In a series of papers published in the Oologist for 1893–1894, entitled "Scenes from the Life of Alexander Wilson," G. Vrooman Smith has given an excellent resume of his life and work. William Jay Youman's "Pioneers of Science in America," 1896, is a reprint from the Popular Science Monthly of 1890, and Witmer Stone's "Some Early American Or-

nithologists, IV. Alexander Wilson," appeared in Bird Lore, 1905. Many other excellent short sketches have appeared from time to time; in fact, they are too numerous to admit mention in this paper. The only American biography of any real pretention since the time of Ord has recently appeared from the pen of Prof. James Southall Wilson, of William and Mary College. It is entitled "Alexander Wilson, Poet–Naturalist," 1906, published by the Neale Publishing Company, New York and Washington, at $2.00; and approaches more nearly the ideal than anything heretofore, though it treats almost exclusively the literary side of the subject. An exposition of the immorality and wretchedness of the times in Scotland, and some new material, notably the correspondence of Jefferson in reference to the imputation of neglecting to act upon Wilson's application to accompany the Pike expedition, have been inserted. While much relevant material has been neglected, and Wilson, the ornithologist, has received less attention than seems consistent with the fact that his fame rests on his scientific pursuits alone; on the whole, it is far the best biography of Wilson extant, and well deserves a place in every library.

There are at least five different portraits of Wilson — two Scottish and three American. The earliest is a painting by James Craw, and it is said to have been an excellent likeness of him in his twentieth year. It is a half length, sitting, with left elbow on the table and hand to cheek, right hand holding quill, three-quarter right face. Dressed in the large-buttoned, double-breasted coat, full waistcoat, frilled shirt, tie and stock of the period, with the long, flowing, straight cut hair, delicate hands, mild eye and face of the æsthetic dreamer, the resemblance to later portraits is nevertheless noticeable. The second is a painting by Sir John Watson Gordon "after the original picture in the possession of Wilson's sister." This, too, is a youthful, three-quarters right face, almost full length figure standing, with long coat, powder flask, gun resting in crook of left arm, and a brace of dead birds on stand at his elbow. The Paisley statue, full length, erected in 1876, was

most probably modeled after the above. The statue is of bronze, by John Mossman, the Glasgow sculpture, and rests on a pedestal of Aberdeen granite, nine feet in height. The figure is a little larger than life, in long coat, boots, gun slung across back, a pencil is held in his right hand, and the head is slightly bowed to examine a dead bird in his left, and the elbow rests on a stump, at the foot of which lies his open portfolio, in which an inquisitive paroquet is peeping. This originated with George Ord, when on a visit to Wilson's birthplace. He subscribed liberally and afterwards sent funds from Philadelphia for the same purpose. Cf. Allibone's Crit. Dict. of Eng. Lit. and Brit. and Am. Authors.

The most popular, and by many acknowledged as the best, American likeness, was drawn and engraved by John James Barralet, an Irishman of French descent, of whom David Edwin, the engraver, remarked: "He was the most eccentric man I ever knew — he was lame from a dislocation of the head of the thigh bone; when he walked it was 'dot and go one,' and the surtout coat he constantly wore in bad weather was dipt in mud on the lame side, at every step he took. He took large quantities of snuff — was extremely irritable, passionate, and very dirty in his general appearance; he was also very poor." He represents Wilson in left profile, half length, gun to shoulder, scroll and gun-barrel grasped by left hand, and the usual high stock, tie and shirt ruff. Many engravers have thrown the profile to the right in copying. The Rev. Grosart sees little good in this American production, and characterizes it "as a wretched daub, self-condemned," and Jos. M. Wade avers that "it is too much dressed — too stiff for a naturalist," asserting that the inventory of Wilson's wardrobe would indicate that he never owned so much clothing at one time. A coarse woodcut, showing the subject clothed in a pea jacket buttoned to the chin, appearing in Webber's Romance of Sporting; or, Wild Scenes and Wild Hunters, is doubtless a crude caricature of the above, and, moreover, this unspeakably repulsive representation was so greatly admired by Wade that he reproduced it in the Ornithologist and Oolo-

gist, though somewhat puzzled as to its origin. I am unable to state the date of Barralet's production. He died about 1812. A copy of his engraving of Wilson is inserted in Brewer's edition of Wilson, in the library of the Philadelphia Academy of Natural Sciences.

The fourth is an oil painting by Rembrant Peale, painted some time between 1809 and 1813. It is now in the rooms of the American Philosophical Society of Philadelphia, having formerly been the property of Governor Samuel Bradford. It exhibits head and bust, a three-quarter left face, high cheek bones, deep eye socket, prominent eye and high, sloping forehead. The dress is plain and inconspicuous. We see here the experienced, eagle-eyed man of action of Ord's description. David Edwin's engraving originally appeared in the Portfolio. It is now much sought after by collectors of his stipple work and readily brings $5.00. Edwin has the distinction of being the first good engraver of the human countenance appearing in this country, and he engraved many of Gilbert Stuart's paintings.

The last is a vignette pencil drawing, probably somewhat idealized. Artist unknown. It was formerly the property of George Ord, now in the possesion of the Philadelphia Academy of Natural Sciences. Full left profile, hair brushed forward to brow.

Another crude illustration, appearing as a supplement to the Oologist's Exchange for 1889, representing Wilson drawing a mouse by candle light and the characteristic disordered surroundings of the naturalist, is worthy of remark on account of the facial resemblance.

I append an incomplete, though by far the longest list I have seen, of engravings, etchings, etc., of Wilson portraits.

After James Craw's original painting:

Jameson's ed. Wilson's Am. Orn. (1831) 1: frontispiece, engraved by W. H. Lizars.

Henderson's ed. of Poetical Works of Alex. Wilson (1844): front., eng. by Maclure & Macdonald, Glasgow.

Gleason's Pictorial (1853) 4: 352.

Grosart's Memoir and Remains of Alex. Wilson (1876) 1: front.,

head and bust, engraved on steel by W. J. Alais.

Popular Science Monthly (Jan. 1890) 36: opposite 289, same enlarged.

Youman's Pioneer's of Science (1896): 90, same.

Plate print, D. Fabrin, sc.

National Cycl. Am. Lit. (1897) 7: 44.

Chamber's Cycl. Eng. Lit. 2: 106, reverse.

After painting by Sir John Watson Gordon:

Jardine's ed. Wilson's Am. Orn. (1832) 1: front., eng. by W. H. Lizars.

Jardine's Memoir of Alex. Wilson, The Naturalist's Library (1843) Ornithology 14: front. Lizars, sc., from original picture in sister's possession.

After statue erected in Paisley, Scotland:

J. Mossman, sc. wd ct.

Illustrated London News (1874) 65: 373, eng.

Scribner's Magazine (1876) 12: 147.

After portrait drawn and engraved by J. J. Barralet:

Smith and Watson's Am. Historical and Literary Curiosities (1847) 2: eng. 22.

Duyckinck's Cyclopedia of Am. (1856) 1: 546, Roberts, sc.

Smith and Watson's Am. Historical and Lit. Curiosities (1861) 1: pl. 59, eng. 33.

Wilson Bulletin (1908) 20: front., etching after Roberts engraving.

Left profile:

Seymour's Self-made Men (1858): 215.

Potter's Am. Monthly and Illustrated Mag. (1875): 263.

Duyckinck's Cyclopedia Am. (1875) 1: 567, Roberts, sc.

Scribner's Monthly (1876) 11: 697, eng.

Harper's Magazine (1876) 52: 708, eng.

Mitchell's Am. Lands and Letters (1897): 201, after eng. in Smith and Watson's Hist. and Lit. Curiosities.

King's Philadelphia and Notable Philadelphians (1902): 107, vignette,

Crude wood cut, left profile:

Webber's Romance of Sporting; or, Wild Scenes and Wild Hunters (1852): 122.

Ornithologist and Oologist (1883) 8: 76, above reproduced.

After Peale Painting:

Portfolio (1814) 3rd series, 4: 435, 8vo. oval, D. Edwin sc.

Appleton's Cycl. Am. Biog. (1889) 6: 545.

James Southall Wilson's Alexander Wilson, Poet Naturalist (1906): front.

Charles Dudley Warner's Library of the World's Best Literature (1897) : 1607, vignette.

After pencil drawing at Philadelphia Academy of Natural Sciences :

Stone's Birds of Eastern Pa. and N. J. (1894) : front.

Bird Lore (1905) 7 : 266, same.

Philadelphia Sunday Press (May 3, 1896) : 8, reduced.

The Grey's Ferry, or Union School, has long since ceased to exist. It is described by Wilson as :

> "A neat stone school-house on a sloping green,
> There, tufted cedars scattered round are seen,
> And stripling poplars planted in a row ;
> Some old grey white-oaks overhang the scene,
> Pleased to look down upon the youths below,
> Whose noisy noontide sports no care or sorrow know."
> —*The Solitary Tutor.*

The earliest representation is doubtless in the Wade collection, drawn by Wilson himself in 1806, and never published. Wade mentions the frame porch [1] unfigured in later pictures. A drawing by M. S. Weaver, October 22, 1841, showing an inartistic little stone box of a building, with bracketed cornice in front, meant to be ornimental, stone steps and landing, flanked by a row of scrubby Lombardy poplars and the branches of a couple of white oaks shading the front, was received by Dr. Elliott Coues, February, 1879, indirectly from Miss Malvenia, daughter of Alexander Lawson. It was first engraved on wood and published in Gardener's Monthly and Horticulturist, August, 1880, by Thomas Meehan, and afterwards electrotyped from the woodcut and published by Dr. Coues in the Bulletin of the Nuttall Ornithological Club in October of the same year. It was used subsequently in the several editions of Coues' "Key to North American Birds." The author writes : "It is believed to be more satisfactory and reliable than any one of the several hitherto published." Miss Lawson, in her communication to Prof. Haldeman, says : "I have a sketch in colors by Helen, taken from the other side of

[1] Oologist, Aug. 1880.

the building, which is more picturesque, but the building is the same."

The one appearing in Rev. Grosart's book is less formal and more sylvan in setting. The poplars have disappeared, and the wide, spreading branches of the squirrel-haunted oaks extend toward the building, the gable window frame is out of plumb, the stone landing is lacking, and a figure of a man faces the door; the building shows dissolution and the surroundings neglect. Dorsey Gardener's article in Scribner's Monthly, March, 1876, is accompanied by an engraving from a photograph of about the same time. A female figure appears between the entrance and window, the same old tree droops a branch protectingly over the roof, a trifle wilder setting than any other view. One month later a much clearer engraving appeared in Harper's Magazine, in illustration of Rebecca Harding Davis' article on Old Philadelphia. It lacks the cloud effects and distant willow, a fringe of unsupported branchlets intrudes to the left, and the female figure is more distinct, otherwise the two are identical. In Scharf and Westcott's History of Philadelphia, Vol. III., 1884, Scribner's cut of this historic little building is used without change.

(a) American Ornithology: | or, | the Natural History of the | Birds of the United States: | Illustrated with Plates | Engraved and Colored from Original Drawings taken from Nature. | By Alexander Wilson. | Vol. I. [–IX]. Philadelphia: | Published by Bradford and Inskeep. | Printed by Robert Carr [–Vols. I. and II., R. & W. Carr–Vols. III. and IV., Robert and William Carr–Vols. V.–IX.] |....| 1808 [–1814]. 9 vols., imp. 4 to.

Vol. I, 1808, pp. i-vi introduction, 1-158 Am. orn., pll. 1-9. Vol. II, 1810, pp. iii-xii preface, 13-167 Am orn., pll. 10-18. Vol. III, 1811, pp. iii-xvi preface and index, 17-120 Am. orn., pll. 19-27. Vol. IV, 1811, pp. iii-xii preface, 13-100 Am. orn., pll. 28-36. Vol. V, 1812, pp. iii.-xii preface, 13-122 Am. orn., pll. 37-45. Vol. VI, 1812, pp. iii-xxi preface and index, 13-102 Am. orn., pll. 46-54. Vol. VII, 1813, pp. v-xii preface and index, 13-132 Am. orn., pll. 55-63. Vol. VIII, 1814, pp. v-xi preface and index, 13-146 Am. orn., pll. 64-72. Vol. IX, 1814, p. iv entered ac. act Congress fifth of June, 1812, by Alex-

ander Wilson, etc., pp. v-xi preface by Ord. xiii-xlviii biog. sketch of Alex. Wilson, xlix-lvii list of the water birds of the U. S. with their generic characters according to the arrangements of Latham, xlix-lvii. [lix] index, 61-133 Am. orn., pll. 73-76, 13 pp. general index, 7 p. list of subscribers.

An edition of two hundred copies of the first, and five hundred copies of each of the eight succeeding volumes. (b) Three hundred additional copies of initial volume with the original imprint of 1808 appeared after Wilson's return from his successful canvass through the Southern States in 1809, and explains the long break between the publication of the first and second volumes. This is not merely a reprint, for the type was reset, errors corrected, and the author made the following changes in the text under the head of the Wood Thrush, page 33. (Cf. Faxon's Early Editions of Wilson's Ornithology, Auk XVIII, 1901, pp. 216-217.)

ORIGINAL EDITION	SECOND EDITION
"Tho' it is believed that some of our birds of passage, and among them the present species, winter in the Carolinas, yet they rarely breed there; and when they do they are certainly vocal."	"I have myself searched the woods of Carolina and Georgia, in winter, for this bird, in vain, nor do I believe that it ever winters in these states."

Referring to the Hermit Thrush on page 34, he adds to the text in the second edition, that he has found this bird numerous in the myrtle swamps of Carolina in the depth of winter. All subsequent editions, with the exception of Jamison's, follow the amended text.

(c) The third edition of Vol. I. and the second of Vols. II.–IX., appeared in 1824–1825. For reasons best known to the publishers, Vols. I.–VI. retained the dates of the original edition, 1808–12, although 1824 appears to have been the actual date of publication. Strictly speaking it is not a reprint, yet Ord made little change beyond incorporating Wilson's index corrections of nomenclature, together with a few of his own, in the body of the text. This edition may be known from the original by the following changes:

"ORD'S REPRINT"	ORIGINAL EDITION
Vol. I, p. 23. *Oriolus baltimorus*	= *Oriolus baltimore*
Vol. II, p. 129. *Fringilla hudsonia*	= *Fringilla nivalis*
Vol. II, p. 135. *Loxia ludoviciana*	= *Loxia rosea*
Vol. III, p. 64. *Sylvia blackburniæ*	= *Sylvia blackburnia*
Vol. IV, p. 30. *Sturnus prædatorius*	= *Sturnus predatorius*
Vol. V, p. 100. *Sylvia leucoptera*	= *Sylvia pusilla*
Vol. VI, p. 27, *Rallus carolinus*	= *Rallus virginianus*
Vol. VI, p. 92. *Falco latissimus*	= *Falco pennsylvanicus*

In the List of the Land Birds of the United States, Vol. VI, of the original edition, Wilson left blank spaces following the names of a number of species to be described later. In the Ord reprint, these are fully indexed to the end, with the exception of the Boat-tailed Grackle (*Gracula barita*), which was not described in any of the nine volumes. As a further mark of identification, Faxon has mentioned the printer's signatures. The signature of the sheet following Z is a double A. In the original edition, the double letter is a small capital and lower case (Aa),—in the 1824 reprint it is capital and small capital (AA).

Vols. VII and VIII of this edition were revised by Ord, and dated 1824. Samuel F. Bradford, publisher, and Thomas H. Palmer, printer. Vol. IX received an entirely new title.

Supplement | to the | American Ornithology| of | Alexander Wilson | containing | A Sketch of the Author's Life | with a | Selection from his letters; some remarks upon his writings; | and a | History of Those Birds | which were intended to comprise part of his | Ninth Volume. | Illustrated with Plates, | Engraved from Wilson's Original Drawings. |—| By George Ord, F.L.S. | Member of the Am. Phil. Soc. and of the Acad. Nat. Sciences of Philadelphia; and | Correspondent of the Philomathic Society of Paris |—| Philadelphia: | Published by J. Laval, and S. F. Bradford. |—| 1825.

Containing—p. v title, vi entered ac. act of Congress Sept. 2, 1825, vii-xi preface, xiii-ccx Biographical Sketch of Alexander Wilson, ccxi-ccxxiii List of the Water Birds of the United States, with Their Generic Characters, According to the Arrangement of Lemminck, 224 index, 225-298 American ornithology, pll. 73-76, and 4 pp. general index unpaged.

(d) American Ornithology; | or | the Natural History | of the | Birds of the United States. | Illustrated with plates | engraved and coloured from original drawings taken | from nature. | By Alexander Wilson. |—| With a sketch of the author's life, | by George Ord, F. L. S. &c. |—| In three vols.—Vol. I [–III]. |—| Published by Collins & Co., New York, | and | Harrison Hall, Philadelphia. | 1828 [–1829]. 3 vols. 8vo. text, and a folio atlas of plates, entitled: American Ornithology; | or, | the Natural History | of the | Birds of the United States. |—| By Alexander Wilson. | Plates | Engraved and Coloured from Original Drawings taken from Nature. |—| Published by Collins & Co., New York, | and | Harrison Hall, Philadelphia. | 1829. No text except the title, consisting of the original 76 colored plates.

Vol. I, 1828, p. i title, ii entered ac. act of Congress by Harrison Hall, proprietor, Apr. 24, 1828; iii-iv contents, v-vi editor's preface, vii-viii preface to life of Wilson, ix-cxcix sketch of the author's life, 1-11 instruction incl. table of the orders and genera of birds, 13-231 Am. orn., Vultures to Cuckoos. Vol. II, 1828, p. i title. ii entered, etc., Aug. 1, 1828; iii-vi contents, 9-446 Am. orn., Woodpeckers to Darters. Vol. III, 1829, p. i title, ii entered, etc., Apr. 27, 1829, iii-vi contents, 1-377 Am. orn., Pigeons to and incl. Waterfowl, 379-392 general index, 393-396 names of 127 subscribers.

This is often called the Ord edition, although Harrison Hall is designated as the proprietor, and the anonymous editor acknowledges his indebtedness to Charles L. Bonaparte for suggestions incorporated in Observations on the Nomenclature of Wilson's Ornithology, and Synopsis of the Birds of the United States, . . . but principally to George Ord, Esq., the friend and associate of Wilson, who has kindly afforded his valuable council and assistance, and has added some highly interesting notes. Mr. Ord has likewise permitted the words contained in his supplementary volume to be incorporated with, and his sketch of the life of Wilson to be prefixed to the work. The original plates, engraved under the eye of Wilson, are employed in this edition, after having been carefully examined and retouched by Mr. Alexander Lawson, by whom most of them were executed; and who as an engraver of objects of natural history, stands unrivalled."

The species are arranged in systematic order, presumably by Ord. The prospectus by Harrison Hall, preserved in the Ridgway Library, contains a beautiful life-size portrait of the Rice Bunting

(Bobolink) in colors, taken from Wilson's figure 1 of plate 12, and bearing the signature of Helen E. Lawson, sc. It is here announced that "The birds have been colored by skilful artists from beautiful preparations belonging to the Philadelphia museum, or from recent specimens procured for the purpose; and it may afford an additional claim to public favor to say it has been principally the work of *females*." The letter press is printed on a very superior paper with new type, made expressly for this purpose; and the color-work by the Lawson daughters, superior to the original edition. The price for the whole set was placed at $50, and to-day will bring as high as $85 if in good condition. The text alone, consisting of three volumes, is worth from $10 to $12.

(e) American Ornithology; | or the | Natural History | of | the Birds of the United States. | By Alexander Wilson, | and Charles Lucian Bonaparte. | Edited by | Robert Jameson, Esq., F. R. S., E. & L., F. L. S., M. W. S. | Regius Professor of Natural History in the University | of Edinburgh, &c. | In four volumes | Vol. I [–IV]. Edinburgh: | Printed for Constable and Co., Edinburgh; | and Hurst, Chance, and Co., London. | 1831. <Constable's Miscellany | of | Original and Selected Publications | in various departments | of | Literature, Science, & the Arts. | Vol. LXVIII [–LXXI]. | The American Ornithology [Vignette engraved by Lizars: Vol. LXVIII Bald Eagle. Vol. LXIX Nighthawk. Vol. LXX Scarlet Ibis. Vol. LXXI Wild Turkey.] | Edinburgh. | Printed for Constable & Co., Edinburgh. | and Hurst, Chance & Co., London. | 1831. 4 vols. 18mo.

Vol. I, p. ii, portrait of Alexander Wilson, engraved by Lizars after Craw's painting. [No other illustrations except vignette titles by Lizars]. iii-v titles, vi printed by Andrew Shortreed, Thistle Lane, Edinburgh; vi-viii publisher's notice, ix-xi contents of vol. first, xiii-lxxxvi memoir of Alexander Wilson by W. M. Hetherington, lxxxvii-lxxxviii Wilson's preface to first volume, lxxxviii-mcvi Wilson's introduction, 3-271 Am. orn., beginning with the *Accipitres*. Vol. II, pp. i-iii titles, v-ix contents of vol. second, 1-334 Am. orn. *Passeres* continued and ending with *Gallæ*. Vol. III, pp. i-iv titles, v-viii contents of vol. three, 1-261 Am. orn., *Gallæ* continued, 263-320 synonyms, or names given to the different birds, in Wilson's Am. orn., by travellers and naturalists. Vol. IV, i-iv titles, v-vi advertisement by R. Jameson, vii-x contents of vol. four, 1-217 Bonaparte's Am. orn., beginning with Order I, *Accipitres*, 219-

238 synonyms, or names given to the different birds in Bonaparte's Am. Orn. by travellers and naturalists, 239-362 appendix, additional details in regard to the birds of America, and birds in general, by Audubon, Richardson, and Swainson.

This is the first European edition of Wilson. The work has been listed variously — 18mo, 16mo, 12mo, and 8vo, and sometimes 4 vols. bound in 2, but so far as I can discover, there are no differences in title, date nor matter. Dr. Walter Faxon informs me that there is only one edition of Jameson's, but some large paper copies were issued, bringing the size up from 18°, or 16°, to 12°, being the same form with more generous margins to the pages. It can be had for $3 to $9.50, according to condition and binding.

(f) American Ornithology; | or, | Natural History of the Birds of the United States. | By Alexander Wilson. | With a Continuation | by Charles Lucian Bonaparte, | Prince of Musignano | The | Illustrative Notes and Life of Wilson, | by | Sir William Jardine, Bart., F. R. S. E. F. L. S. | [etc.] | In Three Volumes | Vol. I [–III] | MDCCCXXXII | Whittaker, Treacher, & Arnot, London: | Stirling & Kenney, Edinburgh | 8 vo.

Contains portrait of Wilson in first volume, and "97 plates, exhibiting 363 figures," engraved by Lizars, and beautifully colored by hand. This scarce and superior edition is catalogued at from $18 to $45, according to condition and binding.

(g) Edition de lux, consisted of "six sets only, for presentation, have the portrait and backgrounds colored, and the 97 plates generally finished in a superior manner with great care and brilliancy of coloring." A copy bound in smooth green morocco, extra full gilt backs, broad dentelle borders of gold or sides, edges marbled and gilt, was recently offered from the Seebohm library collection for £9. 9s.

Jardine's own set is in 4 vols. (the plates in a separate vol.) and was recently offered for £5.

The Jardine editions are in need of further study. Allibone quotes: "American Ornithology, or Natural History of the Birds of the United States, By Alexander Wilson, with a Continuation by Charles Lucian Bonaparte, New and Enlarged Edition, Completed by the Insertion of above 100 Birds, omitted in the Original Work, and Illustrated by Notes, with a life of the Author, by Sir William Jardine, Bart., and 97 plates representing 363 figures, Lon. and Edin., 3 vol. 8vo, 1832 (some 1835), colored boards £6 16s. 6d. Extra colored, half-bound morocco, £10 10s. This edition was pur-

chased by H. G. Bohn in 1836, and the plates colored with more care and finish than before. Utterson, in 1857, colored plates, £4 11s.; Sotheby's, Mar. 1863, £4." A set was recently quoted at £5 18s.

(h) American Ornithology; | or, | The Natural History | of the | Birds of the United States. | By | Alexander Wilson | and | Prince Charles Lucian Bonaparte. | The Illustrative Notes and Life of Wilson | By Sir William Jardine, Bart., F. R. S. E., F. L. S. | In Three Volumes. — Vol. I [–III]. | Cassell, Petter & Galpin. | London; Paris & New York. | [1832?] 8 vo.

Vol. I, frontispiece — engraved portrait of Wilson by Lizars, after Gordon painting; pp. v-vii contents, ix-cv life of Alexander Wilson, 1-408 Am. orn., pll. 1-27. Printed by Ballantyne and Company, Edinburgh and London. Vol. II, pp. v-vii contents, 1-495 Am. orn., pll. 28-68. Vol. III, pp. v-vi contents, 1-156 Wilson's Am. orn., 161-524 continuations of Wilson's orn. by Bonaparte, 525-540 general index of English and Latin names, pll. 69-75 Wilson, and 1-27 Bonaparte. Printed by Ballantyne, Hanson and Company.

A cheaper unauthorized edition of the above, printed in colors as original, reduced, engraved by W. H. Lizars. Can be had for about $12, though it occasionally finds a market at a higher price. Very desirable. Not quoted by Coues.

(i) Illustrations of the American Ornithology of Alexander Wilson and Charles Lucien Bonaparte, Prince of Musignano. With the addition of numerous recently discovered species and representations of the whole Sylva of North America. By Captain Thomas Brown, [etc., etc.]. Edinburgh, Frazer & Co., 54 North Bridge | William Curry Jun'r & Co., Dublin | & Smith, Elder & Co., 65 Cornhill | London | MDCCCXXXV. [fol., eng. tit. [= 11.] + ded. eng. [= 11] + syst. index [= 11.], 124 pl.]

The figures of birds are reproduced from Wilson's and Bonaparte's works on the 124 plates with tolerable closeness to the originals, but sometimes with the figures at different angles, and with the coloration not exact. The collocation of the species is original, and the grouping is mainly by genera adopted from Temminck. The birds are arranged on figures of branches of trees copied from Michaux.

In the words of the compiler, "The arrangement adopted is that of Temminck slightly altered, with the addition of some new Ge-

nera. One hundred and sixty-one birds have been added by the Editor, which are distinguished by an *; and eighty-seven birds have been considerably enlarged; these latter are marked by a † prefixed. Besides the addition of one hundred and sixty-seven representations of Forest Trees and Shrubs."

There is no explanatory text except the data here reproduced and the names of the birds and trees. (*Cf. Gill in The Osprey*, Vol. V, 1901, p. 109.) Originally sold for £26, according to Allibone.

(j) American Ornithology, or the Natural History of the Birds of the United States. With a sketch of the author's life by Geo. Ord. London, 1839. Large 4 to. 5 vols. 3 vols. text, 2 vols. colored plates.

Not seen! Quoted from catalogue. Doubtless a reprint of Harrison Hall and Collin's & Co.'s edition of 1828-1829 (known as the Ord edition) with the edition of Bonaparte's birds, making the second volume of colored plates. Quoted at $50 in a recent list.

(k) American Ornithology. | Illustrations | of | American Ornithology; | reduced from the | original work of Alexander Wilson. | London: | published by William Spooner, 259 Regent Street, | Oxford Street; | Hurst, Chance, and Co., 65 St. Paul's Church Yard; | and Constable and Co., Edinburgh. | [No date] 16 mo? 18 mo? (say 4 x 6). No. 1 containing 8 plates. Communicated by Prof. A. Newton, Cambridge, England. Cf. Coues' Bibliographical Appendix, p. 60.

This very rare edition seems to be envolved in considerable mystery. Everything, however, will seem to indicate that it was projected in the same spirit, and by substantially the same people, if not at about the same time as the Jameson edition, for which it was doubtless intended as a companion or supplement.

(l) Wilson's | American Ornithology, | with | notes by Jardine: | to which is added | A Synopsis of American Birds, | including those described | by | Bonaparte, Audubon, Nuttall, and | Richardson; | by T. M. Brewer. |—| Boston: | Otis, Broadus, and Company. |—| 1840. <Wilson's | American Ornithology | with | Additions | including the birds | described by | Audubon, Bonaparte, | Nuttall, | and | Richardson | [Title surrounded by engraved scroll and figures of birds]. Boston, Otis, Broadus and Company. 1 vol. 12mo. Also 8vo.

Frontispiece reduced figures of Wilson's birds, pp. i title and sub-

title, ii entered ac. act Congress 1839 by Thomas M. Brewer. [Stereotyped at the Boston Type and Stereotype Foundry], iii-iv advertisement by Brewer, v-viii contents, 1-681 Wilson's American Ornithology following the original arrangement, 682-746 Synopsis of the Birds of North America, Plates uncolored, unnumbered, greatly reduced, but keeping the original grouping, usually three of the original in one, constituting figures numbered consecutively, figg. 316-318, and 322 are wood cuts in text.

This, the original Brewer edition, is rather scarce and is quoted at from $3 to $10.

(m) Wilson's | American Ornithology, | with | Notes by Jardine; | to which is added | A Synopsis of American Birds, | including those described | by Bonaparte, Audubon, Nuttall, and | Richardson: | By T. M. Brewer |—| New York: | H. S. Samuels, No. 8 Park Place, MDCCCLII. 8 vo.

This is a cheaper edition of the 1840 issue.

Dr. Faxon informs me that the various issues of Brewer were printed from the same plates which passed into the hands of different publishers, thus giving the different imprints.

(n) There is also an 1853 edition from the same source, in 1 vol. with colored frontispiece, now offered at $3.75-$5; and, according to trade lists, in 2 vols. with two colored, in addition to the usual plain plates, quoted at $4.

(o) 1854, New York, Charles L. Cornish ed., in 1 vol. at $5.25, and 2 vols. with two colored and the numerous uncolored plates at $9.

(p) "The American Ornithology, by Alexander Wilson, with a life of the Author by George Ord, and Numerous Additions from Audubon, Bonaparte, Nuttall, Richardson, and Jardine, by T. M. Brewer. 2 vols. 8vo, and plates in 1 vol. r. 4 to, Phila. 1856." *Cf. Allibone's Crit. Dict. of Eng. Lit. Vol. III, 1898, p. 2766.* Not seen. If it exists, the plates may have been from the Ord edition, The Philadelphia ed., seldom quoted and readily brings $6.50 without being catalogued, according to Mr. Samuel N. Rhoads.

(q) Wilson and Bonaparte. | — | American Ornithology; | or, | The Natural History | of the | Birds of the United States | Illustrated with Plates | engraved and colored from original drawings from nature. | By | Alexander Wilson | and | Charles Lucian Bonaparte. | with a Sketch of the Life of Wilson, | By George Ord, F. L. S., | and | A classification of the genera and species of American Birds, | By Spencer F. Baird, | of the

Smitsonian Institution. | Vol. I [— III]. Philadelphia: | Porter and Coates. | [No date. 1871.] 3 vols. imp. 8vo. with folio atlas in two parts, the first entitled:

American Ornithology; | or, | the Natural History | of the | Birds of the United States. | Plates | engraved and colored from original Drawings taken from Nature. | By | Alexander Wilson. [Trademark.] Philadelphia: Porter and Coates, | 822 Chestnut street. Leaf of index and 76 plates. The second part is simply entitled:

Bonaparte's Ornithology | Plates. Leaf of index and 27 pll. As this does not bear the publishers' imprint, it was undoubtedly intended a mere subtitle to be bound with the first. It is frequently found separated, and has caused some confusion to cataloguers on account of this insufficient title. The whole work is from the Caxton Press of Sherman & Co., Phila., and stereotyped by Mears & Dusenbery.

Vol. I, pp. v-vi contents of Vol. I, vii editor's preface, ix-x preface to the life of Wilson, xi-cxxxii sketch of the author's life, 1-9 introduction, 11-214 text of Am. orn. from Turkey Vulture to Hummingbird.

Vol. II, pp. v-viii contents of Vol. II, 1-9 introduction, 9-284 text, Red-winged Starling to Partridge, 285-287 introduction to Waterbirds, 289-390 Martineo Gallinule to Roseate Spoonbill. Vol. III, pp. iii-viii contents of Vol. III, i-xiv catalogue of North American birds by Prof. Spencer F. Baird, xv-xvi alphabetical index of genera of birds, 9-133 text, Grey Phalarope to female Snakebird, 139-140 contents of Bonaparte's ornithology, 141-143 preface to the original edition in four volumes, 145-148 preface to the second and third volumes, 149-408 text Bonaparte's ornithology following the original sequence, 409-426 combined index of whole work.

This is simply a reprint of Ord's fine 1828-1829 edition, with the interpolation of Baird's Catalogue of North American Birds, reprinted from the 8vo edition of 1858, and the addition of Bonaparte's work. The original plates of Wilson's work were purchased at a cost of $1700, but as Bonaparte's beautiful plates had been melted and sold for old copper, resource was made to photography and electrotyping to reproduce the latter. The coloring for the most part is high and lacks the artistic merit of the best earlier edition. Had Coues closely examined the 1828-1829 edition, he would scarcely have quoted from the editor's preface of the Porter and Coates edition (Cf. Bibliographical Appendix, p. 689), as it is

exceedingly inappropriate, having been taken verbatim for the earlier edition. The whole text, as a matter of course, was almost half a century behind the times on the day of issue. It is catalogued variously at from $45.00 to $75.00 according to condition and binding, and published to sell at $100 originally.

(r) "American Ornithology, or the Natural History of the Birds of the United States, By Alexander Wilson and Charles Lucian Bonaparte . . . . with notes and life of Wilson by Sir Wm. Jardine, London: 1876. New York: J. W. Bouton, 1887. New edition. 3 vols. 8vo. All the plates, 103 in number, lithographed in colors."

The above taken from a recent trade list. Said to be very scarce with this imprint. Coues called it a reissue of the cheaper Jardine issue of the 1832 edition, though he had not seen it. Doubtless a reprint of the undated edition. Quoted at $15 and $17.

(s) American Ornithology; | or, the | Natural History | of the | Birds of the United States. | Illustrated with plates | engraved from drawings from nature. | By | Alexander Wilson | and Charles Lucian Bonaparte. | — | Popular edition | Vol. I [— III]. | [Monogram] | Philadelphia: | Porter and Coates, | 822 Chestnut street. | No date—1878.] 3 vols. in 1 | royal 8vo.

Text the same pagination and order as the 1871 edition with the exception of the removal of Baird's catalogue and the alphabetical index to follow Ord's life of Wilson in place of their insertion between contents and text of final volume. Bonaparte's plates 1-27 on 8 leaves marked "B," and Wilson's plates 1-76 on 20 leaves, greatly reduced, uncolored, though retaining original characteristics and grouping; are inserted between contents of Vol. I and preface to the life of Wilson.

A cheap reprint in one volume of the 1871 edition without the atlas of colored plates, selling at $7.50. In reviewing this edition, Ernest Ingersol remarks (Cf. Bul. Nuttall Orn. Club, Vol. IV, 1879, p. 54) "What *would* be welcome is an edition of Wilson at a moderate price, prepared under the direction of a competent ornithologist, which should be a commentary on the splendid work of the Father of American Ornithology, and should indicate in a brief and graphic way the progress in the science since his death. Such a work would be of great value to the ordinary man of culture as well as the specialist."

THE BIRDS OF CEDAR POINT AND VICINITY.

BY LYNDS JONES.

LAND BIRDS.

While the definite division of the birds into Water Birds and Land Birds is, to my mind, a good deal artificial because some so-called Land Birds live more in the vicinity of water than some so-called Water Birds do, it never-the-less serves a sufficiently worthy purpose to be defensible. Certain it is that Land Birds furnish us with more reliable data for working out most migration problems because the influence of large bodies of water upon their movements is greater. Also, they average much more approachable and are found near our homes and our work. It is, therefore, with less of effort that they are studied.

The physical features of the islands have been treated with sufficient fullness. It may not be out of place to remind the reader that Pelee Island, like Point Pelee, has a considerable growth of red cedar trees bordering the southward extending point, which form rather dense thickets, especially along the eastern border of the point. On the mainland of the region under consideration the only evergreen woods are cedar thickets nearly a mile in extent east of the summer resort grounds of the Cedar Point Company, and occasional cedar thickets along the lower reaches of Vermillion River; small and scattered growths of pines and hemlocks also along the lower reaches of the Vermillion and Black Rivers, growths that were clearly considerable areas of marketable timber when the country was first settled, and occasional thickets of red cedar on the sandstone knolls in the northern part of the Oberlin and Vermillion quadrangles. It is doubtful if these evergreen areas have ever had any considerable influence upon the distribution of the birds. Undoubtedly the thinning of the woods in general has exerted a far more potent influence upon distribution in general, of the Land Birds, just as the occupation of the swamps at the mouths of nearly all streams has exerted a profound influence upon the distribution of the Water Birds.

In any case the birds which migrate across the region are probably little influenced by minor changes in physical features, however much breeding birds may be influenced. Of course the destruction of nesting areas — by drainage of swamp lands, the cutting of timber, the clearing of brushy tangles,— must result in a shifting, at least, of the local nesting. There have been not a few changes of this sort, as we shall see as the discussion by species proceeds.

81. *Colinus virginianus.*—Bob-white.

Mr. Baird states that there were a few in 1901 at Cedar Point, but there is no mention of the species by any other observers at the Lake Laboratory. I flushed two about half way on the sand spit January 6, 1908. These are the only ones observed on the sand spit by the writer. None have been reported from the islands to my knowledge. On the mainland the numbers vary considerably, but it cannot be called a common bird anywhere nor at any time within twenty years. Elderly persons speak of the Quail as one of the common game birds in the earlier days. It seems probable that the increasing population of the region is largely responsible for the depletion in numbers, since at the present time the numbers remain about constant from year to year, evidently due to the number of gunners. Twice in late winter coveys of less than twenty birds have been known to pass a night on the Oberlin campus within five rods of the trolley line, where cars were passing every hour up to midnight. One of the coveys remained on the campus for several hours of the day and were seen by many persons. The favorite nesting place is in the tangle of grasses and bushes along a line fence. There are numerous instances of the semi-domestication of this species, so that a considerable flock not only fed with the chickens but roosted about the premises all winter.

82. *Bonasa umbellus.*—Ruffed Grouse.

There was at least one bird ranging along the sand spit, westerly, in the winter of 1906-07, as evidenced by fresh tracks on several occasions. I can find no other reference to this species for the sand spit. On the islands it is not known now, but in the earlier days it was found on the larger islands. On the mainland it is nearly extinct because there are almost no woods where it can elude the hunter. As late as twenty years ago the Ruffed Grouse was a familiar bird in the deeper woods and the wooded parts of the stream gorges. Another decade will probably end his career in the region under discussion — a victim of civilization.

EXTINCT.

Tympanuchus americanus.—Prairie Chicken.

The only record for the region known to me is that reported in the Revised Catalogue of the birds of Ohio, 1903. Professor E. L. Moseley reported a capture near Sandusky in 1880. This also appears to be the last reported capture for the state. It is doubtful whether this species could have found congenial surroundings in the region under consideration at any time. It is more likely that its occurrence was in the vicinity of Castalia.

EXTINCT.

Meleagris gallopavo silvestris.—Wild Turkey.

Formerly common over the whole area, but has been extinct for at least forty years. A specimen in the Oberlin College museum, said to have been captured on the college campus, bears the questioned date of 1858. I can find no reliable data as to when the last was recorded.

EXTINCT.

Ectopistes migratorius.—Passenger Pigeon.

There appears to be no record of a nesting or even roosting in the region, but there are many accounts of the vast flights of these birds. Accounts which I have been able to gather seem to agree substantially that most of the flights were in a northerly and southerly direction, which would indicate that the birds crossed the lake. It would hardly seem probable that so vast a company could turn abruptly in either direction upon reaching the lake without influencing the direction of flight of those as far inland as twelve miles. Some of the older men state that the last flight noted was about 1872.

83. *Zenaidura macroura carolinensis.*—Mourning Dove.

Common everywhere from about the middle of April until the middle of October, wintering in favorable localities in small numbers. The birds which winter begin singing in the warm days of February. During the winter the birds may be found in small companies or singly about farm premises or in corn fields which have not been husked, apparently sleeping in the corn shocks. They are pretty certain to be found where stock is fed fodder and hay if there be a haystack convenient in a field some distance from human dwellings. I have not found them in winter on the sand spit, but during the season of breeding there are many there as well as on the larger islands. I have never noticed this species making long flights out over the lake. After the small grain has been gathered into the barn and the stubble either plowed under or fed closely, the Doves are to be found in the corn fields, where they seem to eat quantities of weed seed, but do not molest the corn. They seem to spend the moulting time in the corn fields. Early nests are usu-

ally made above the ground, but the late nests are as likely to be on the ground as above it. I have one set of four and one of three eggs. The larger set was pretty clearly occupied by two females and one male.

84. *Cathartes aura septentrionalis.*—Turkey Vulture.

It has seemed practically impossible to convince the makers of the paragraphs on Geographical Distribution in our Check List that

Photo by A. L. Princehorn

Turkey Vulture (*Cathartes aura septentrionalis*).

the time honored statement concerning this bird that it is of rare occurrence north of the Ohio Valley is no longer applicable. No less than six pairs nested in the immediate vicinity of Birmingham, Ohio, my country home, during the seasons of 1908 and 1909. In summer and autumn it is a common thing to see from half a dozen to twenty of these great birds circling about the Vermillion River gorge. This is no new thing, but has been the same during my entire residence in northern Ohio. I would not call the species common over the whole area, but rather of regular occurrence, and

certainly not rare. The arrival is about the middle of March (March 7, 1903), and the departure about the middle of October. Most of the nests actually found have been in hollow logs lying flat on the ground. Occasionally a standing hollow tree is used.

85. *Circus hudsonius*.—Marsh Hawk.

A regular resident in small numbers. It is actually less numerous than the Turkey Vulture. During the winter it is most often seen hawking over the marshes at Cedar Point, and for most of the spring and early summer it is largely confined to the same re-

Photo by Lynds Jones

Marsh Hawk (*Circus hudsonius*).
Nest in the marsh vegetation.

gion because it is nesting there, but at other times one may be seen flying about the more open parts of the whole region. The nests found have been in the coarse vegetation of the marshes, built up two or three feet from the water. The accompanying illustration was taken from a nest in the marsh. Four individuals is the most I have seen at one time at the marshes. Snakes constitute a considerable portion of the summer ration of this bird, and many mice are eaten in winter. If this hawk is migratory to any degree I

have failed to detect it. Pretty clearly the individuals which are seen at the marshes remain there pretty constantly the whole year, for one of them is distinctively marked.

86. *Accipiter velox.*—Sharp-shinned Hawk.

Tolerably common the year through, but occasionally in great numbers for a day or a week during the height of the migrations, the whole length of the sand spit; elsewhere not much increased in numbers. It is seldom seen outside of thick shrubbery except in its low, swift flight from one copse to another, or when busily engaged eating a bird. My observations indicate that its migrations pretty closely correspond with the migrations of the Olive-backed Thrushes, upon which it feeds greedily. Thus, on April 29, 1907, and April 27, 1908, dates when the thrushes were swarming, these hawks were more numerous than I have ever seen them and were fattening on thrush flesh. In a walk half the length of the sand spit there were many spots where thrushes had been caught and eaten; among them only one Hermit Thrush, all the others Olive-backs. During the winter this hawk not infrequently dashes into town for a taste of English Sparrow. Rarely small companies are seen circling and soaring high in air. I have never seen them making flights northward over the lake.

87. *Accipiter cooperii.*—Cooper's Hawk.

It is not sufficiently numerous to certainly determine its status. It is occasionally seen in winter, but the indications are that it is pretty regularly migratory. It is found at the nesting place about the middle of April, and remains in that vicinity well into July. Several have been seen at Cedar Point, but there is no good evidence of a nesting there. It should be found nesting in the vicinity of Lakeside, across the channel, and west of Marblehead. The peculiar metallic "tick, tick, tick," which constitutes the call of this hawk makes identification easy while it is nesting. Its fondness for poultry and pigeons is pretty likely to result in its final extermination. In the vicinity of Oberlin it builds its nest in large trees in the deepest woods available, as far as practicable from the ground. Crows and Jays attack it viciously.

88. *Astur atricapillus.*—Goshawk.

For some unaccountable reason this hawk has not come within my field of vision. There is a specimen in the Oberlin collection which was collected near Oberlin, so that this gives it a proper place on the list. I have no question that the Goshawk is of more or less regular occurrence in this region, as well as in surrounding regions, and it will certainly be learned and properly noted.

89. *Buteo borealis.*—Red-tailed Hawk.

Tolerably common over the whole region, and often remaining in usual numbers all winter when there are mice and squirrels enough; otherwise going south to the limit of snow. A pair has regularly nested near the east end of the Cedar Point marshes, and one or both birds have often been seen soaring over the mainland edge of the marsh. I have seen them west of Marblehead, and on North Bass island. None were seen at Pelee island, nor at any of the other large islands. Occasionally several of these large hawks may be seen in company of several species, circling and moving northward in spring. Nests are placed in as inaccessible trees as possible, frequently on the brow of the bluff bordering the rivers. The birds are staunch defenders of the nest, and excellent providers.

90. *Buteo lineatus.*—Red-shouldered Hawk.

Our commonest large hawk, breeding in practically every woods, even to the scattering remnants of big timber. It is present all the year when the winter supply of mice is sufficient, otherwise it accompanies the Red-tail southward, returning with the warm days of early March. Large flights of this hawk have not been noted in this state, but were occasionally witnessed in Iowa. It is persecuted by poultry raisers without cause. The seeming incapacity of the average person for distinguishing one hawk from another — if, indeed, there is any desire to do so — will probably continue to result in the destruction of considerable numbers of this useful hawk because it is more easily approached than its larger and more destructive relative, the Red-tail. The nesting time of this hawk is about two weeks later than that of the Red-tail, coming in the last of March. Nests are much more accessible than those of the Red-tail, being built in trees less difficult to climb and nearer the ground. There has been some decrease in numbers in the last decade, but the species is still common.

91. *Buteo platypterus.*—Broad-winged Hawk.

Sometimes common for a day or so during the migrations, but unusual in winter and rather scarce in summer. The considerable flights noted which have been distinct migrations have come during the last week of April and the first ten days of May. The two most conspicuous of these flights were May 2, 1904, when a large company, associated with six Red-tails, four Red-shoulders, three Rough-legs, three Sparrow, two Marsh, and two Bald Eagles, was watched from the top of a sand-stone knoll two miles south of Oak Point. The Broad-wings disappeared to the northeast, but all of the others returned apparently to their nesting places. The Red-tails occasionally screamed, but none of the others was heard. There was a very lit-

tle fighting between the Red-tails and the Rough-legs. All of the birds were circling upward, but the Red-tails and Red-shoulders did not ascend far. The other occasion was April 29, 1907, at Rye Beach, where the numbers were too great to be counted. These Broad-wings were near the ground when first seen, but rapidly ascended in spirals, all the while moving nearly parallel to the lake shore in an easterly direction. When they disappeared from view high up they were still drifting eastward over the land. In this company there were Sparrow, Marsh, and Rough-legged Hawks, four of each, which did not accompany the Broad-wings far. When these birds were first seen they were about two miles west of the east end of the marshes, and therefore within plain view of Kelley's Island. It seems likely that they had arrived over the Sandusky river route, and therefore reached the lake shore, or the marshes, near Sandusky. It is difficult to account for their easterly course if, as seems almost certain, they were bent on reaching the Canada side. At their elevation of several hundred feet they must have been able to see not only Kelley's, but also Pelee Island, and probably also Point Pelee. If they were afraid to cross such an expanse of water they ought to have had sense enough to cross by the island route, and if they were not afraid to cross anywhere what was the sense in their cringing along the shore? If this were an isolated instance one might argue unfamiliarity with the route, but the same direction has been taken on each of six such migrations. It may be, therefore, that this species is following an hereditary instinct.

The few nests found have invariably been in the smaller stream gorges situated well up in trees growing from the bottom of the gorge. The immediate vicinity of Cedar Point is therefore not suitable for the nesting of the Broad-wing.

92. *Archibuteo lagopus sancti-johannis.*—Rough-legged Hawk.

A winter visitor in small numbers, tarrying, sometimes, into May. Contrary to my experiences with this hawk in other localities, it is not found here about the marshes in winter, but hunting over the fields and meadows. It is hardly more than occasional, and some winters is not noted at all. My dates of occurrence are too few and too scattering to give any indication of the times of migration. This is one of the mouse hawks feeding largely upon such small mammals.

93. *Aquila chrysaetos.*—Golden Eagle.

One was recorded about the middle of the sand spit, March 2, 1908, which is the only one recorded for the immediate vicinity of Cedar Point. There are several other winter records for the east-

ern part of the region. It is pretty certain that this eagle is a wanderer from other regions.

94. *Haliaetus leucocephalus.*—Bald Eagle.

Breeding pairs actually known are situated as follows: One in the extreme northeastern part of the region: one at Oak Point, about seven miles west of the first one mentioned; one about two miles up stream from the mouth of Vermillion River, about seven miles from the Oak Point nest; one near Rye Beach, near the east end of the marshes; one west of Marblehead; one on each of the following islands: Kelley's, Put-in-Bay, North Bass. This eagle is therefore a familiar bird over the whole region under discussion. About two-thirds of the nesting birds have the adult white head and tail from year to year. Apparently most of the pairs raise two young each year, so that several eagles must leave the region between one nesting period and the next. In the summer and autumn immature birds are seen more often than mature ones. Some may be killed by gunners, but if so they are careful to keep the occurrence a secret, for the penalties for killing an eagle are severe. Because there are practically no Ospreys nesting in the region the eagles are under the necessity of doing their own fishing or food capturing. That the eagles do catch live fish well out in the lake is proved by many observations. I have often suspected, however, that the most of the fish captured are those thrown out of the nets, which are numerous in the region of the sand spit — fish that were more dead than alive. I have never seen an eagle eating the fish cast up on the beach. When there is more ice than water surface eagles may be seen perched convenient to a water hole awaiting a favorable opportunity to make a capture. Fully adult Bald Eagles make use of the nest the year round, often occupying it together. They are ugly birds to be near when there are young in the nest, and would better be given large room. The constant increase in the bulk of the nest by the annual addition of nest material seems finally to result in the death of the nest tree and the consequent destruction of the nest when the tree falls. The nest at Oak Point and that at Rye Beach have thus been changed once in fifteen years.

95. *Falco peregrinus anatum.*—Duck Hawk.

There is a specimen in the collection of Mr. A. Hengartner, of Lorain, which was captured "Along the lake shore" in 1896. It has never been my fortune to meet this bird. There can be little doubt that it visits the region occasionally.

96. *Falco columbarius.*—Pigeon Hawk.

Decidedly scarce. There was one bird ranging along the middle reaches of the sand spit during the whole spring of 1908, apparently

intending to nest there, but evidently left before doing so. There are numerous records of single individuals in the region of Oberlin, most of them falling in the winter season. Whenever it has been found eating anything investigation has revealed its catch to have been a Tree Sparrow. Undoubtedly it catches mice when they are to be found.

97. *Falco sparverius.*—Sparrow Hawk.

Our commonest hawk. It is often as common in winter as the rest of the year, but some winters only a few remain. Such scarcity is coincident with a scarcity of field mice. In summer this hawk feeds extensively upon grasshoppers. There is a little evidence that a small northward migration occurs about the first of April. At least two pairs regularly breed east of the Lake Laboratory on the sand spit, and are likely to remain there during the winter. One pair has nested in the cupola of Council Hall, just north of the Oberlin campus, for at least twenty years. I have no records of this hawk for any of the islands.

98. *Pandion haliaëtus carolinensis.*—Osprey.

Records of its occurrence at the marshes are occasional. It visits the Oberlin Waterworks reservoir pretty regularly from the middle of April to the tenth of May. It was not recorded in 1906. There are no summer records even for the islands, so that it does not seem to breed in the region. Usually only a single bird is seen, but occasionally there will be two together.

99. *Aluco pratincola.*—Barn Owl.

There are four records as follows: A male, taken in Oberlin by E. Rose, March 17, 1891, the first record; probably a male taken in a barn in New Oberlin by I. H. Squires, December 20, 1898; one taken in the Oberlin cemetery by Tillotson, April 3, 1907; one seen at Rye Beach by the writer, May 14, 1909. Whether there is an increase of this owl in the region remains to be seen. Apparently there is a tendency to an increase in other parts of the state.

100. *Asio wilsonianus.*—Long-eared Owl.

None have been observed except in the Oberlin quadrangle. There it is to be found in suitable places the year through in small numbers. In the winter it may be found perched in evergreen trees, or trees to which the dry leaves are still clinging, usually well within cover of the gorges. Groups of half a dozen birds in one tree are often met with. At the nesting season they go out into the larger woods in pairs, nesting either in open deserted crows' nests or in hollow trees.

101. *Asio flammeus.*—Short-eared Owl.

It has been occasionally seen hawking over the marshes, and more often over fields and meadows at twilight. It appears to be more numerous near the lake shore, where it may be found in winter sleeping beneath the overhanging banks which border the lake in many places. Usually more than one bird is thus startled from its hiding place, but I have never seen more than one while it is feeding. The latest spring date is March 12, 1898. All other records are strictly winter records.

102. *Strix varia.*—Barred Owl.

This is our commonest large owl, occurring regularly the year through in the larger woods and in the stream gorges. It readily responds to an imitation of its calls, often coming within easy range. It may occasionally be seen at twilight flying from one woods to another, but is seldom found away from fairly thick woods. I have yet to find a nest outside of a hollow in a tree. Individuals which are so foolish as to retire for the day sleep to a leafy tree are almost certain to be rudely awakened and driven about by Blue Jays and Crows, their perpetual enemies. Sometimes such individuals ultimately retire to the darkness of a hollow tree, but more often try to shake off the tormentors by flying from place to place. I have seen them catch rabbits and red squirrels.

103. *Cryptoglaux acadicus.*—Saw-whet Owl.

One was found in the cedar thickets near the Lake Laboratory, March 20, 1907. This owl is seldom met with, and then in the vicinity of the lake shore. Mr. A. Hengartner, of Lorain, told me that he had found it at Oak Point on more than one occasion, but I have never met with such good fortune. I doubt if it is more than casual in the region.

104. *Otus asio.*—Screech Owl.

Common over the whole region, except the smaller islands, all the year. In Oberlin it nests in most of the college buildings to which it can gain ready access, and in many hollow trees and in several barns. One can not get beyond the sound of its voice at night in any of the stream gorges. At least three pairs nested within ear-shot of the Lake Laboratory in 1907 and 1908. I have found it on the sand spit wherever there was sufficient cover.

There is no question that all of the owls thus far listed are of great benefit for the large numbers of rodents which they destroy. The Barred Owl may occasionally eat forbidden flesh, but only when he is driven to it by lack of his usual fare. Rarely the Long-eared Owls, when they are in considerable force, may attack poultry or

even small dogs, but they are normally not injurious in their feeding habits, but rather decidedly beneficial.

105. *Bubo virginianus.*—Great Horned Owl.

It has decreased from tolerably common fifteen years ago to decidedly scarce over the whole region. I know certainly of but three pairs in the whole of the Oberlin and Vermillion quadrangles, and none elsewhere. That specimens are occasionally brought in by farmers is an indication that there are more of these birds than one might suspect. They are so certain to visit the chicken yard that is handiest to their retreat that their total extinction is only a question of time. While they nest in the deepest woods they wander about and may be found almost anywhere during the part of the year when not breeding.

106. *Nyctea nyctea.*—Snowy Owl.

Occasionally reaches the region at times of southward flights in the winter. Sandusky taxidermists receive specimens much more frequently than do taxidermists elsewhere in the region.

107. *Surina ulula caparoch.*—Hawk Owl.

The only occurrence known to me is a specimen in the collection of Mr. R. E. Jump, which he captured near Oberlin some time in the seventies. This occurrence can hardly be called accidental because southward flights of this species range well across the state.

108. *Coccyzus americanus.*—Yellow-billed Cuckoo.

This is much the commoner of the two cuckoos, even during the height of the spring migration, when the Black-bill is more numerous than at other times. The median date of spring arrival is May 10, the earliest record being May 6, 1899 and 1907. I am strongly inclined to the belief that some individuals, at least, arrive a week or ten days earlier than even May 6, since nests with a full complement of eggs have been found by the middle of May. The latest recorded date for fresh eggs is August 15, 1899. Autumn dates are scattering. There are three October dates: 1st, 1906; 17, 1908; 21, 1907. Other dates fall within August and September. The late autumn dates would also seem to indicate an earlier arrival than the records show. The birds are very secretive during the first days of their arrival, and are not readily discovered. Nests are placed in the shrubbery bordering woods, or in back lot tangles. They seem to be placed almost anywhere in suitable tangles along the whole course of the sand spit, where I have found more individuals than elsewhere in the region, both during the migrations and during the nesting season. The call of this cuckoo is one of the characteristic sounds in the vicinity of the Lake Laboratory.

While the young are being fed in the nest great numbers of tent caterpillars are consumed.

109. *Coccyzus erythropthalmus.*—Black-billed Cuckoo.

Median dates of arrival are May 11, the earliest being May 5, 1896. The birds are most numerous during the third week of May, but after that time thin out to few individuals during the whole summer. My records indicate that the birds depart southward about the beginning of the last week in September. At any time they are outnumbered three or four to one by the Yellow-bill. Occasionally eggs of the Black-bill are found in the nest of the Yellow-bill, but I have never noted a return of the compliment (?) on the part of the Yellow-bill. The nesting places of this cuckoo are much the same as those of the other, but the nests average rather more slovenly made.

110. *Ceryle alcyon.*—Belted Kingfisher.

Common along the courses of the larger streams, in the vicinity of the large ponds, and along the lake front and over the marshes. Individuals which are able to find suitable fishing places remain all winter. I have never seen one in winter in the vicinity of the sand spit. While there are usually areas of open water somewhere in the marshes at all times, the Kingfishers do not seem able to find suitable cover in their vicinity or are crowded away by the gulls and ducks. Individuals often fly well out over the lake to fish. Nests are dug into any convenient bank, even the steep sloping sides of the sand dunes in spite of their tendency to cave off and ruin the prospect. The median date of arrival is March 24, the earliest being March 12, 1906 and 1908. The average departure of the bulk is about the middle of October. There is little variation in the numbers, and no instances of any marked flights.

111. *Dryobates villosus.*—Hairy Woodpecker.

A common resident over the whole of the mainland portion of the region, but not seen on the islands, and only casual on the sand spit during the spring. I have failed to find any nesting pairs in the wooded west end of the point. This Woodpecker is not unusual as a nesting bird in the orchards of Oberlin, but is more numerous at all times in the woods. It is frequently more numerous in town during the snowy parts of winter, when it will visit the lunch counter with other birds. In the woods in winter this species ranges with the regular company of woods birds, being in about the proportion of three to five of the Downy Woodpecker, and usually being about the last of the company to respond to the whistled calls of Chickadee or Tufted Titmouse. It often resents being thus

fooled by vigorously giving its rolling call as it flies swiftly away after discovering the source of the calls. Nest holes are often dug in trees that appear sound on the exterior but have a dead heart. Four of these birds in the writer's orchard have done great service in ridding the trees of insect eggs and larvæ all winter and summer, for they nested in trees left untrimmed for their especial benefit. Some of them pretty regularly visited the lunch counter at the house while the trees were covered with ice.

112. *Dryobates pubescens medianus*.—Northern Downy Woodpecker.

A common and familiar resident over the whole region except the small islands. It is rather more numerous in towns in winter than at other times, being one of the most regular patrons of the lunch counter until nesting time. It is one of the best conservers of the orchards where it feeds all the year and seems to prefer to nest. It is among the first to respond to calls when the winter company is being located, and among the last to pass on with the restless host in search of other feeding places in the woods. At the lunch counter it gives place only to larger birds. Several pairs nest on the sand spit, one near the Lake Laboratory, and it is regularly found all winter long on visits to the sand spit. I have never been able to detect the least suggestion of the migratory instinct of this and the former species. If actions count for individuality then it seems pretty clear that individuals remain the year through in rather narrowly restricted localities. Males have been seen occupying the old nest hole on winter nights, while the female was forced to dig a shallow hole in a tree not far distant. Mating is in progress from the first warm days of January until actual nesting begins in late April.

113. *Sphyrapicus varius*.—Yellow-bellied Sapsucker.

Usually a common migrant, casual all winter. The median date of spring arrival is April 6, the earliest being March 18, 1905. The period of greatest numbers is from about April 12 to May 10. The last have gone north by the 21st of May. The first reach the region from the north during the last week in September and remain about two weeks. I have repeatedly seen birds drilling holes as if to nest, but none have ever been found in the region in summer. When the birds are numerous for any length of time they do considerable damage to certain species of trees, by drilling sap holes in such numbers as to weaken the tree. Hop hornbeams are attacked with serious effect, the bleeding of the tree causing it to put forth scanty foliage. White pines and spruces are also considerably damaged by extensive drillings. I have not observed much damage in the orchards, but on the contrary have some evidence

of help by these birds in ridding the trees of parasites. Along the sand spit, they are not as numerous in the migrations as in the mainland woods, but are certain to be met with in season.

114. *Ceophlœus pileatus abieticola*.—Northern Pileated Woodpecker.

The presence of a small colony only five miles southeast of the Oberlin quadrangle saves this species from the list of extinct birds. It was formerly fairly numerous in the woods of the region, and probably occurred on the larger islands, but for more than a score of years it has been almost unknown. There are specimens in the Oberlin College museum which were collected within the present limits of the town.

115. *Melanerpes erythrocephalus*.—Red-headed Woodpecker.

Often abundant during the summer, occasionally remaining all winter in small numbers where beech nuts are plentiful. The median date of arrival is April 27, the bulk arriving within a week. The bulk departs about the end of the second week of September, and the last by the beginning of the last week, a few straggling later, even well into October. The winters of 1896-97, and 1899-00 were notable for the considerable number of Red-heads which remained all winter in the larger woods. I have seldom found it really numerous on the sand spit, even during the migrations, but it is there in fair numbers in spring and summer. Occasionally birds are washed upon the lake shore during August, which might indicate a southward migration at that time. This woodpecker nests practically anywhere that a stick large enough for a nest hole can be found standing. Fence posts are frequently used, as well as buildings, and of course, telegraph and telephone poles. It eats a good deal of fruit in season, but also helps materially in keeping down insect pests in orchards. It is an adept flycatcher, practicing this habit of feeding more often in late spring and summer than otherwhiles.

116. *Centurus carolinus*.—Red-bellied Woodpecker.

A tolerably common resident, slowly increasing in numbers. I have not met it on the sand spit nor on any of the islands. The woods on the larger islands and at the west end of Cedar Point seem to be suitable for the Red-belly, but for some reason it is absent. It stays pretty closely in the larger woods all the year, but occasionally ventures out. It has been recorded twice in Oberlin in spring. I have seen it eating acorns and beech nuts, and suspected that it also ate other nuts and fruits. It rarely responds with the other woods birds to calls, but seems to prefer its own company to that of any other birds. It is unusual to find more than one bird in a woods.

117. *Colaptes auratus luteus.*—Northern Flicker.

Abundant in the migrations, common during the breeding season, regular in small numbers all winter. The great wave of migration which reaches us from the south varies from early March to the middle of April, weather conditions seeming to be the determining factor. The south-bound wave sweeps past during the first week of October. The individuals which remain all winter are to be found where grains, fruits and berries are abundant. Thus Flickers are certain to be found in growths of the sumach. A few individuals remain on the sand spit as long as there are wild grapes. After the grapes are gone individuals are seen flying across from the mainland apparently filled with memories of past feasts. A corn field from which the corn has not been husked is certain to harbor a few. As many as nine individuals have been known to live in Oberlin all winter, feeding upon the fruits of the vines which cover the sides of some of the college buildings. The river gorges furnish retreats in severe weather. Flickers visit the bird lunch counter all winter, but do not seem as much at home as the smaller woodpeckers do. Mate calls are given as early as the first warm days of February, but mating is not in full progress before the numbers are greatly increased by the arrival of the host of migrants. On the approach of nesting time there is a perceptible thinning of numbers, but the species must be regarded as common all summer long. It is not easy to tell whether the increase as autumn approaches is due to the return of birds from the north or the young hatched in the region. From the large proportion of birds in immature plumage one might be led to infer the latter. Families are likely to remain together until October, when the young of the year are fully able to shift for themselves. The "wick-i-up" call is likely to be given on any warm day of the fall or winter, but at other times the only note usually heard is the single prolonged call. This woodpecker is present on all of the larger islands all summer, and is tolerably common in the vicinity of the Lake Laboratory during the nesting season and all the fall.

118. *Antrostomus vociferus.*—Whip-poor-will.

Except during the migrations confined to the stream gorges, and mostly along the lower reaches of the rivers. During the spring migrations it is scattered pretty generally over the whole wooded portions of the region, but is far less numerous away from the streams than elsewhere, except in the immediate vicinity of the lake. Twice the bird has been recorded on the Oberlin College campus, and at least one regularly spends a few days of the migration season on the banks of Plum creek near the Waterworks reservoir. Its spring arrival is usually a few days in advance of the

big spring wave which sweeps through about the first of May. I have no records later than July 30. After the birds cease singing it seems impossible to find them, or else they move southward earlier than one would be led to expect. The experiences of Taverner and Swales on Point Pelee prove that they do not leave before September. Probably there is no fly line across the region under consideration. On April 29 and May 13, 1907, Whip-poor-wills were in such numbers on the sand spit that an accurate count was impossible. In 1908 a pair evidently nested a few rods west of the Lake Laboratory, for it was present during the whole of the summer term — June 22 to July 30.

119. *Chordeiles virginianus.*—Nighthawk.

Irregular, but never common, as a summer resident. I have seen more individuals of this species flying over the high buildings of Cleveland in an hour of an evening than I have seen in a whole season in the region under consideration. Migrations occur in late August and early September, but the birds may be going east or northeast instead of southerly. In fact, I have noted more easterly migrations than southerly, at such times. Nighthawks probably reach this region during the first week of May, although more of my records fall later than the middle of May than during the first; however, the birds are too few in numbers to make one certain that the first seen are the first arrivals. My latest fall date is September 21, 1896. Nighthawks are seldom seen in the nesting season away from the larger cities, where they seem to nest on the tops of the tall buildings. Nests are occasionally found in woods.

120. *Chætura pelagica.*—Chimney Swift.

The arrival and departure of the Swift are easily noted because the bird is one of the commonest and most conspicuous of our summer birds. The median date of arrival is April 20, the earliest being April 11, 1896, and the latest April 29, 1907, which is six days later than the next latest date. Weather conditions held the Swifts back in 1907. Recorded dates of departure are October 6, 10, 11, 14, 17, 18, 23, the last date being in 1899. These dates are seen to be coincident with the first cold October storm. During the spring and the nesting season, and until the young are flying about, more birds are seen in town all day than elsewhere, but from the time the young leave the nest until the southward departure more are seen in the country districts, particularly above woods, during the day. At evening twilight the birds return to their roosting place to pass the night, and are gone in the morning before most humans are stirring. No hollow tree nestings are known hereabouts, the birds using the chimneys for that purpose. For roosting the chim-

ney of some large building is commonly used, usually one of the college buildings or one of the churches in Oberlin. Of course there are no nesting places on the sand spit, so that birds seen there are those flying about feeding. On the larger islands they nest in the chimneys of dwellings mostly.

121—*Archilochus colubris.*—Ruby-throated Hummingbird.

Hardly common except occasionally in particularly favorable localities and under particularly favoratble conditions. In fact, records of common fall in late summer and early fall when trumpet vines and jewel weed are prime for them. The median date of arrival is May 11, the earliest being May 3, 1896. The latest fall record is September 29, 1907. A nest nearly completed was found May 11, 1904, when the first record was May 6. There was a nest with eggs June 7, 1898, the first record for that year being May 14. Most of the nests found in this region have been in beech trees, an occasional one in apple. Baird (1901), and Rice (1906), mention it as not common in those years. The comment of Griggs (1900), is, "In small flocks about the frequent clumps of trumpet creepers." In 1907 I did not find it at all until August 1st, near the Lake Laboratory, and only an occasional individual in 1908, until the last week in July, when it became common about the trumpet creepers. I am not certain that this rather sudden increase was not due to the favorable food supply for the birds reared in the region rather than a distinct southward migration. The migrations which I have observed have occurred late in August. I am struck with the correspondence of action of these birds as seen on Pelee Island in late August as so fully and pleasingly described by Taverner and Swales for the birds on Point Pelee. More Hummers were noted heading for Middle Bass Island than for Middle Island and the Ohio shore in the last week of August, 1905, when I spent a week at the southern extremity of Pelee Island. On our sail from Middle Bass to Pelee Island we saw a number of Hummers steering a straight course from Pelee to Middle Bass, and all were keping just above the water, dipping down between the waves. None flew directly with the wind, and none directly into it, but all quartered.

THE FALCONES OF NORTH AMERICA.

BY W. F. HENNINGER AND LYNDS JONES.

FALCO FUSCO CŒRULESCENS *(Vieillot).*

APLOMADO FALCON.

Geographical Distribution.

Southern Texas, New Mexico and Arizona, south to Patagonia. (Check List).

Measurements.

Male: Length 38, wing 23.5 to 27, tail 16 to 20.5, tarsus 4.3 to 4.7, middle toe 3.4 to 3.8, culmen 1.5 to 1.8.

Female: Length 49, wing 28 to 29.5, tail 20 to 22.4, tarsus 4.6 to 5, middle toe 4 to 4.3, culmen 1.7 to 2.1.

Diagnostic Marks.

Broad white band behind the eye, tail crossed by white bands and darker toward the tip, bluish-gray back, lighting on the ground.

Plumage.

Above, plain bluish-gray, tail darker toward end, tipped with white, and crossed by about eight narrow bands of the same, broad stripes behind eye chin, throat and chest, white, the stripe back of the eye changing to orange-rufous on back of head where the top of opposite sides unite. Sides and flanks blackish, narrowly barred with white. (Fisher).

Flight and Habits.

Its flight is light and easy. While hunting for food it often hovers over certain spots after the manner of the Sparrow Hawk, and when alighting it generally chooses the bare ground to rest on. Some observers report the bird as being very shy, while others state it is quite tame and unsuspicious. (Fisher).

Food.

Probably like that of the Pigeon Hawk, consists largely of small birds, insects and mammals, though little is known positively in reference to it. (Fisher).

Nest.

The nesting site is as variable as the surroundings will allow; sometimes the structure is placed in a yucca or cactus 10 or 15 feet from the ground, while at other times it may be found in a mesquit or other bush a few feet above the surface of the plain. The nest is composed of small twigs and plant stalks and usually has a lining of grass. When the abandoned nests of other birds are available they are used. (Fisher).

Eggs.

Apparently three in number, about 45 by 35 mm. Ground color a dirty yellowish white, thickly sprinkled with reddish and chestnut brown blotches and spots of various sizes, almost completely obscuring the ground color. There is said to be great variation in the markings of the eggs. Eggs are deposited from late March until the middle of May.

FALCO SPARVERIUS *(Linn)*.

SPARROW HAWK.

Whether or not one questions the validity of the numerous subspecies of this falcon the scope of this paper makes it unnecessary to describe more than the type form. The paragraph on the geographical distribution covers the whole group without special reference to any of the several color phases which are given subspecific rank.

Geographical Distribution.

Breeds from Florida, the Gulf Coast, and Durango, Mexico, north to Newfoundland and Alaska, and winters south to Costa Rica. (Cooke).

Measurements.

Extent 53 to 59 ctms. Male, length 24.56, wing 18.70, tail 12.40, culmen 1.27, tarsus 3.06, middle toe 2.41.

Female, length 26.64, wing 19.07, tail 12.82, culmen 1.32, tarsus 3.22, middle toe 2.52.

Diagnostic Marks.

Black markings of head (see photograph), red upperparts, call, hovering while feeding over meadows, small size.

Plumage.

Adult male: top of head, wing coverts and inner quills slate blue, the former with a rufous crown patch, the latter black spotted and crossed by a heavy black bar; sides of head and throat white, black stripe from lower eyelid, proceeding downward, another transverse black bar on the side of the neck and a black spot in the middle of the cervix; rest of upper parts, including tail, bright, rich chestnut rufous, black bars across the middle of the back, broad black subterminal bar on the tail, the central feathers tipped with rufous, the others with white. Lower parts white or buffy, or even rufous, with or without black spots, wing quills spotted with white on the inner webs, primaries with blackish.

Adult female: general coloration like the male, but with black bars over the back, wings and tail, the tail with ten or more bars; below streaked with rusty brown, sides often barred with blackish.

Young like adults.

Flight and Habits.

A bold, handsome, fearless hawk, sitting erect; swift of flight, with a forward and backward tendency to the wing stroke, often hovering or fluttering over prey or in search of food, circling high and playing with the wind in the mating season. Frequent about human habitations, nesting in cupolas or other places about buildings.

Food.

Principally mice and grasshoppers, English Sparrows, also other small rodents; sometimes lizards, small snakes, small song birds, various insects and larvæ, and spiders.

Voice.

"Kle kle kle kle kle"—"Kee hee."

Nest.

In hollow trees, in crevices of rocks, in holes of river banks, in buildings. Often no nesting material is placed in the hole, but sometimes considerable is used. Nests from April 1 south to June 1 north.

Eggs.

Three to seven, rounded ovate, 35.2 by 29 mm. Color very variable; rarely pure white, usually buffy, cream or rufous, sprinkled, marbled, mottled, blotched with walnut, cinnamon, chocolate, ochre and lavender. Incubation about 23 days.

FALCO DOMINICENSIS *(Gmelin)*.

CUBAN HAWK.

Geographical Distribution.

Cuba, casual in Florida.

Measurements.

Male: length 22.86, wing 17.91, tail 12.75, middle toe 2.31, tarsus 3.81, culmen 1.27.

Female: tarsus 3.82, wing 18.54, tail 13.21, middle toe 2.31, culmen 1.30.

Diagnostic Marks.

Dark phase, plumbeous above, light phase, like *sparverius*, other diagnostic marks like *sparverius*.

Plumage.

Light phase, similar to *sparverius*, but fewer black spots above, lower parts merely overlaid or washed with orange color or else white; inner webs of quills not barred with dusky, merely touched with it; moustache indistinct; a conspicuous white superciliary stripe.

Dark phase, male above principally dark plumbeous, at times almost blackish, except the tail; a black collar across the hind neck; breast deep rusty, throat grayish. Female, above rufous (young male the same), lower parts deep rusty. Otherwise like *sparverius*.

Flight, habits, food, voice and nest like those of *F. sparverius*.

Eggs.

Three to five, laid in March and April, like those of *sparverius*, only smaller, averaging 31 by 28 mm.

AQUILA CHRYSAETOS *(Sprucngli)*.

GOLDEN EAGLE.

Geographical Distribution.

Breeds from Nova Scotia, Maine, central Ontario, Manitoba, South Dakota, western Texas, and central Mexico, north to northern Labrador and northern Alaska; also breeds south in the Alleghenies to southwestern North Carolina, and also in the northern part of the Eastern Hemisphere south to northern Africa and the Himalayas. (Cooke).

Measurements.

Extent 196 to 230 ctm. Male: length 83.82, wing 60.45, tail 36.83, tarsus 9.40, culmen 3.94, middle toe 6.60, hind claw 6.8.

Female: length 96.52, wing 67.31, tail 40.21, tarsus 9.72, culmen 4.52, middle toe 6.78.

Diagnostic Marks.

Large size, feathered tarsus, black color. In the field cannot with certainty be distinguished from young Bald Eagle at a distance.

Plumage.

Dark brown, lanceolate feathers of occiput and neck tawny (hence "Golden" Eagle). Quills and tail blackish. Tail with basal third whitish, outer two-thirds dark gray. Tarsus fully feathered to the toes, lighter colored.

Young: similar, only two-thirds of the tail pure white (these distinctions have given the excuse for the so-called subspecies *fulva* by European writers).

Flight and Habits.

Contrary to the older writers, modern authors and observers consider this eagle gentle and unsuspicious even at the nest, only extreme hunger making them ferocious, as is the case with most any animal or bird. A clean, noble looking bird, keen of eyesight, powerful in flight, erect in posture, rather shy and wary at all times, exceedingly swift.

Food.

In the west principally small rodents, as marmots, gophers,

ground squirrels, prairie dogs, wood rats, hares, but also lambs, shoats, fawns, grouse, ducks, geese, swans, small waders, snakes (quite often), in the east more frequently poultry and the young of domestic animals, because the wild food is not so abundant as in the west.

Voice.

"Kiah, kiah, kiah" (alarm), "Kee kee kee" (mating), "Kau kau" (mating).

Nest.

On cliffs in the mountains principally in the east, in live oaks, white oaks, and pines, in the west. Nest bulky, built of large sticks and clubs, very flat, lined with grass, straw, Spanish moss, Spanish soap root tops, feathers, wool, cattle hair. Placed high up, as high as 100 feet, at times very low.

Eggs.

One to three. Plain white, sometimes unmarked, mostly marked thickly with spots and blotches of shades of brown, chocolate, walnut, drab, or rufous, differing greatly in size and color. Ovate, coarse, thick, roughly granular shell. Eggs laid from the last of January in the southwest to May and June in the north. One brood. Incubation 35 days. The eggs measure 75 by 60 mm.

ARCHIBUTEO LAGOPUS SANCTI-JOHANNIS *(Gmelin)*.

ROUGH-LEGGED HAWK.

Geographical Distribution.

Breeds from Newfoundland, southern Mackenzie, and central British Columbia, north to northern Labrador and northern Alaska, and winters south to North Carolina, Louisiana, Texas, and central California. (Cooke).

Measurements.

Extent 140 ctm. Male: length 52, wing 39.48, tail 24, culmen 2.03, tarsus 5.84, middle toe 3.30.

Female: length 55.89, wing 43.10, tail 26.4, culmen 2.41, tarsus 6.60, middle toe 3.81.

Diagnostic Marks.

Large hawk size, though smaller than an eagle; feathered tarsus, blackish appearance, crepuscular habits, slow flight; much hovering over swamps and meadows while feeding.

Plumage.

Adult: head and neck white streaked with dusky brown, rest of upper parts brownish-gray with ochraceous markings, outcropping of feathers white, gray, and buffy, upper tail coverts and larger part of base of tail white. A broad dusky band across the terminal part of tail, preceded by several narrow bands. Lower parts white or buffy with dusky spots on the breast, irregular broad dusky band across the abdomen, thighs usually tinged with rusty.

Immature: terminal portion of tail grayish, the band across the abdomen broad, solid, unbroken, otherwise like adult.

Melanistic phase: from specimens which are a solid black excepting white-barred tail and basal white on primaries, to somewhat lighter colored specimens, up to the normal phase, not due to age, sex, or season. (This melanistic phase is not found in Europe or Asia in the species *lagopus* proper, which has not been taken in North America, and consequently omitted from this list).

Flight and Habits.

Large, powerful, but gentle and peaceful, crepuscular, almost nocturnal in habits; sitting not very erect; flight graceful, easy, low in general, sometimes soaring high, at other times hovering like a Sparrow Hawk, poising in the air to drop down on its prey. Never fierce, not even when wounded. Prefers places where groves and fields alternate. Catches its food mostly in fields, meadows, and the open prairie, perching on trees in the vicinity of its feeding grounds.

Food.

Mice, gophers, rats, shrews, frogs, snakes, lizards, sometimes grubs, worms, caterpillars, rarely a bird.

Voice.

High pitched Ki-ah ke-ah—ki-yak.

Nest.

Mostly in trees, principally in pines, about six meters above ground, sometimes on high cliffs; nest composed of sticks, shallow, lined with grass, moss, weed stalks, and the like.

Eggs.

Two to five, laid from the end of May to the end of June. Shell closely grained. Vary greatly in size, shape, and color. Color grenish or soiled white, with streaks, spots, and blotches of reddish brown and chocolate, in all styles of markings, regular and irregular, sparingly or heavily, though apparently never unmarked. Similar to eggs of *Buteo buteo* or *B. lineatus*. 55.4 by 44.6. One brood only. Incubation 27 days.

ARCHIBUTEO FERRUGINEUS *(Licht)*.

FERRUGINOUS ROUGH-LEG.

Geographical Distribution.

Breeds from Kansas, northwestern Texas, and California north to southern Manitoba, southwestern Saskatchewan, and southern Washington; winters south to northern Mexico, and has occurred casually east to Wisconsin and Illinois. (Cooke).

Measurements.

Male: length 57.2, wing 40.4 to 42.7, tail 24.2 to 26.5, tarsus 6.99.

Female: length 63.5, wing 42.7 to 47.7, tail 26.5 to 28.

Diagnostic Marks.

In general like the Rough-leg, but plumage lighter and with strong suffusion of rusty, tail much lighter, but with the same pattern.

Plumage.

General pattern like that of the Rough-leg, but with reddish prevailing over white or black in any of the phases of plumage.

Flight and Habits.

General habit not much differing from that of the Rough-leg. Soaring or flapping lazily, flying low while feeding, hovering over prey, but shows no partiality for the vicinity of

water. It is also a bird of the open ground, where it feeds after the manner of the Rough-leg.

Food.

Dr. A. K. Fisher says: "The food of this Hawk consists almost exclusively of small mammals and reptiles, and, like the Rough-leg, never attacks birds.

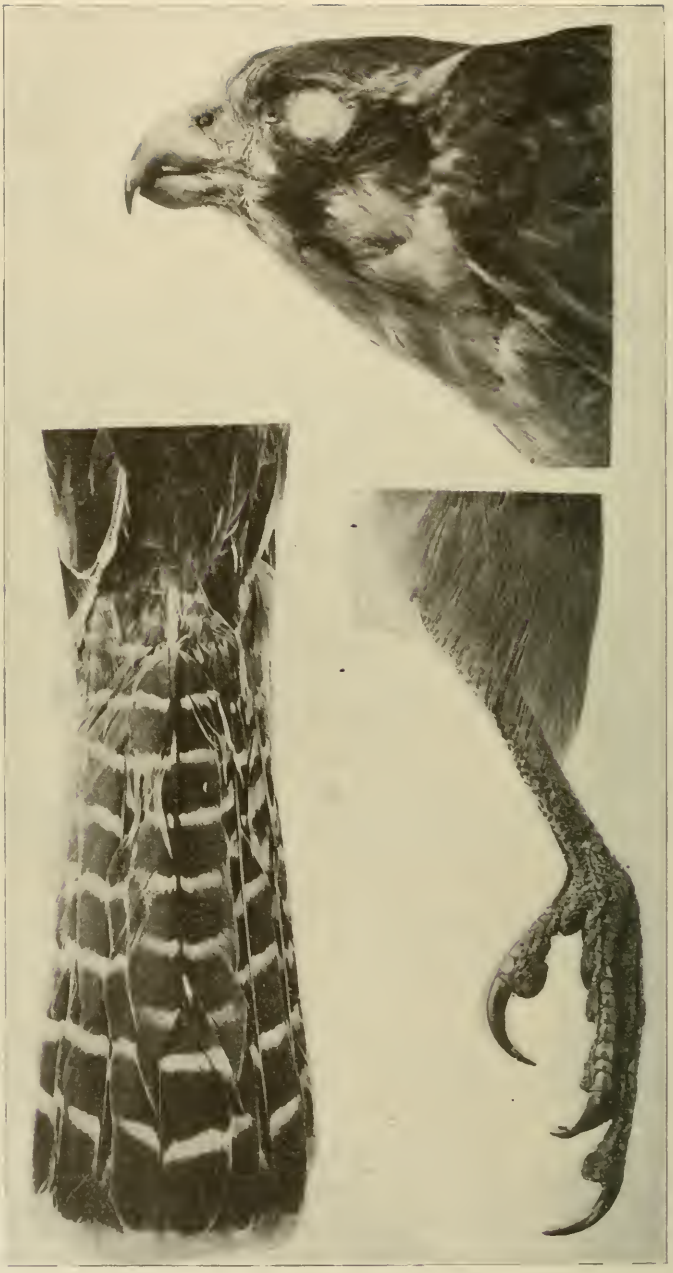
Nest.

"The nest is usually built in a tree at no great distance above the ground, but when trees are not available it is placed on the shelves of some of the earth cliffs which abound in certain parts of the West. Like that of other large hawks, it is composed of good-sized sticks and coarse herbage of one kind or another, and is lined with softer material than the bulk of the structures is composed of. When such things existed on the plains, the ribs and smaller bones of the buffalo were used in the construction of the nest, often forming a large part of it." (Fisher).

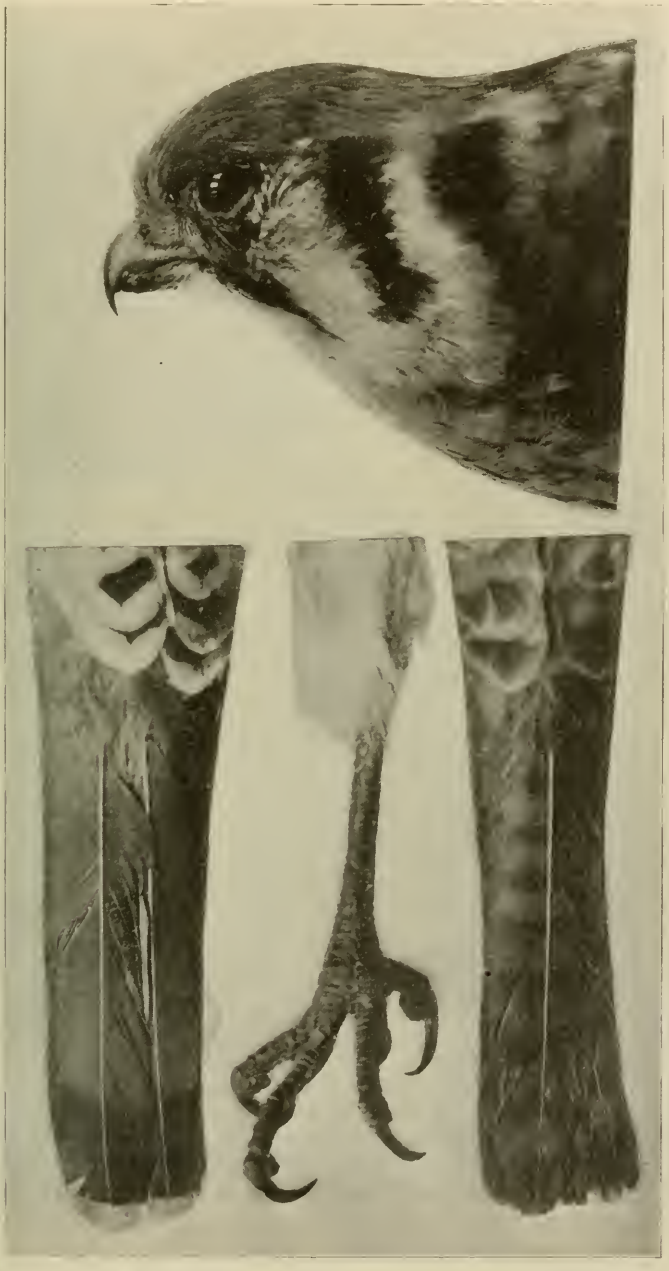
Eggs.

Three or four in number, deposited early in May, and by the middle of July the young are able to leave the nest. (Fisher).

The difficulty of securing specimens suitable for making pictures has made it necessary to so combine pictures in the plates that specific reference to specimens seems inadvisable.—ED.



Falco fusco-caerulescens. Aplomado Falcon.



Male Female

Falco sparverius, Sparrow Hawk.

Falco dominicensis, Cuban Hawk.

Aquila chrysaetos, Golden Eagle.

Archibuteo lagopus sancti-johannis, Rough-legged Hawk.

BIRD NOTES FROM MIDDLE WESTERN OHIO.

BY W. F. HENNINGER.

Since publishing the results of bird migration this spring a number of interesting observations have been made, which are here recorded in chronological order:

1. *Rallus elegans.*—King Rail.

This bird has been found to be a common breeder at a certain part of the Grand Reservoir, six nests having been found in one day, June 5th, and again one nest on June 22d, the complement of eggs being from four to eleven. One nest contained two eggs and two young on the former date, while a nest close by contained eleven fresh eggs. Several interesting photos were taken, the first ones in Ohio, I believe, of the nest of this species, and many interesting facts in the life history of the King Rail recorded.

2. *Ixobrychus exilis.*—Least Bittern.

To the breeding stations of this bird in Ohio, enumerated in Jones' Catalogue, must be added the Grand Reservoir, where at the same locality as the King Rail, quite a number of nests with fresh eggs were found.

3. *Telmatodytes palustris.*—Long-billed Marsh Wren.

This species has greatly increased at the Grand Reservoir, nesting frequently.

4. *Haliæetus leucocephalus.*—Bald Eagle.

A beautiful adult was observed on June 18th, and further investigation revealed the fact that a pair had bred along the Grand Reservoir at a locality which I shall not disclose.

5. *Florida cærulea.*—Little Blue Heron.

A fine young male of this species was shot July 16th at the Loramie Reservoir and is now in my collection. It is the first time since 1902 that I am able to rerecord this bird in Ohio.

6. *Ægialitis semipalmata.*—Semipalmated Plover.

7. *Ereunetes pusillus.*—Semipalmated Sandpiper.

8. *Pisobia minutilla.*—Least Sandpiper.

On August 31st a great number of these birds was seen and a few were taken on this date at the Grand Reservoir. They were very tame, allowing me to approach within three feet of them while they were gleaning along the sandbanks. The best diagnostic feature between *Ereunetes pusillus* and *Pisobia minutilla* to my observation is the color of the legs, these being dark in *pusillus,* light in *minutilla.*

9. *Hydrochelidon nigra surinamensis.*—Black Tern.

A young male was shot by me on August 31st at the Grand Reservoir, proving that this species is a regular, though rather rare, migrant in Western Ohio.

10. *Calidris arenaria.*—Sanderling.

On September 24th, at the Grand Reservoir, about fifty birds of this species were seen, six of which, four females and two males, were secured. This, I believe, is the first time that such a great number of this species has been observed so far in the interior of Ohio. Records along the Lake Shore are common, but inland mostly solitary birds were recorded in the past, and even at Detroit the first appearance was noted August, 1908, (Auk, October, 1909, page 427) by a member of the Wilson Club. All such records should be placed in the Wilson Bulletin as the best organ for ornithologists of the Middle West.

11. *Charadrius dominicus.*—Golden Plover.

Shot a female September 24th at the Grand Reservoir from a flock of nine. A male was killed October 16th at the Loramie Reservoir and sent to me, proving again that this species is a regular migrant across this section of the country.

12. *Mareca americana.*—Baldpate.

A flock of six was seen at the Grand Reservoir September 24th, 1909, my first fall record in the State.

13. *Larus argentatus.*—Herring Gull.

A beautiful pair of adults were seen at close range September 24th at the Grand Reservoir, the earliest inland fall date I can find for Ohio.

14. *Totanus melanoleucus.*—Greater Yellow-legs.

A fine male was sent to me, shot on October 16th, at the Loramie Reservoir.

15. *Phalacrocorax auritus.*—Double-crested Cormorant.

A fine young female was shot at the Loramie Reservoir on October 16th, and is now in my collection. It seems best to refer the specimen to this species and not to *floridanus,* although I have but one Comorant of the sub-species *floridanus* in my collection to compare it with.

16. *Nycticorax n. nævius.*—Black-crowned Night Heron.

Besides the specimen mentioned in the June Bulletin as taken at the Loramie Reservoir, another young male was taken at Wapakoneta in April and mounted there and then.

THE BROWN STAIN OCCASIONALLY SEEN ON THE FEATHERS OF WILD DUCKS.

BY B. R. BALES, M. D.

During a number of years of collecting of natural history specimens, I have on several occasions taken ducks whose breasts and lower parts were stained with a rusty or brownish stain. The feathers so affected have a harsh feeling and do not have the smooth or oily feeling of ducks' feathers not so affected.

Mr. W. F. Henninger, in the Wilson Bulletin, Vo. XXII., No. 2, page 102, writes of three Scaup Ducks (*Aythya marila nearctica*) that were abnormally colored with "a rusty-brownish wash." He also quotes Mr. Leon J. Cole in the Osprey, 1897, p. 69, and Mr. I. F. Arnow in the Auk, Vol. XXIV., No.

2, p. 198, both of whom found similar coloration in the Lesser Scaup Duck (*Aythya affinis*). I have observed it in several specimens of Pintail (*Dafila acuta*), both males and females, one male Mallard (*Anas boschas*) and to a lesser extent in a male Black Duck (*Anas rubripes*). The rusty coloration is very pronounced in the case of the Pintails, both male and female, but, of course, is more noticeable in the males, where in extreme cases the white breast and neck are stained in their entirety.

One specimen in particular that I have before me (No. 197, coll. B. R. B.), has this rusty stain on all the white parts of the breast and neck, as well as (though not so noticeable) on the finely barred feathers on either side of the white portion of the breast. The staining extends well up upon the sides. Mr. Henninger states that he does not agree with the statement made by Mr. Arnow in that the coloration is due to "some compound of iron in the water frequented by the birds," but that "it must be due to other causes."

Owing to the fact that this abnormality of coloring has been found upon so many varieties of ducks, I was led to accept the theory of Mr. Arnow, and determined to make a chemical test for iron. I therefore plucked several feathers from the breast of one of my Pintail skins and soaked them for several hours in water slightly acidulated with chemically pure hydrochloric acid. After several hours soaking, the rusty color entirely disappeared, the solution remaining clear. I then added a few drops of a weak solution of potassium ferro-cyanide, whereupon the solution turned to a blue color, showing the presence of iron. The form of iron in the water at the time it is deposited upon the feathers is likely the hydrate, though it is possible that it may be the sulphate. As soon as the feathers become dry or exposed to the air, the hydrogen is lost, and the form changes from the hydrate to the oxide or iron rust.

The test employed to determine the presence of iron is explained thus: By soaking the suspected feathers in dilute hy-

drochloric acid, the chloride of iron is formed, when, upon the addition of the dilute potassium ferro-cyanide, the blue color is shown, indicating that the ferro-cyanide of iron is present, thus completing the test and proving without doubt that iron is present.

All specimens of ducks that have come under my observation have been taken during the spring migration, and, to my mind, at least, the discoloration is due to iron "in the water frequented by the ducks" in their winter quarters.

Circleville, Ohio, Nov. 1, 1909.

A LAST ATTEMPT TO LOCATE AND SAVE FROM EXTINCTION THE PASSENGER PIGEON.

Through the interest and generosity of Col. Anthony R. Kuser, I am able to offer the following award:

Three Hundred Dollars ($300) for information of a nesting pair of wild Passenger Pigeons *(Ectopistes migratoria)*, Undisturbed.

Before this award will be paid such information must be furnished (exclusively and confidentially) as will enable a committee of expert ornithologists to visit the nest and confirm the finding. If the nest and parent birds are found undisturbed the award will be promptly paid.

(Signed) C. WILLIAM BEEBE.

Until January 1st, 1911, during Dr. Beebe's absence from America, all information concerning the existence of Passenger Pigeons should be sent to C. F. Hodge, Clark University, Worcester, Mass.

In making this offer Col. Kuser withdraws his former offer of One Hundred Dollars ($100) for a freshly killed Passenger Pigeon. He does this because of the great danger of complete extermination.

THE WILSON BULLETIN

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Edited by LYNDS JONES.

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Price in the United States, Canada and Mexico, one dollar a year, 30 cents a number, postpaid. Price in all countries in the International Postal Union, $1.25 a year, 40 cents a number. Subscriptions may be sent to Lynds Jones, Oberlin, Ohio, or to Mr. Frank L. Burns, Berwyn, Penn.

Officers of the Wilson Ornithological Club for 1909:

President—Frank L. Burns, Berwyn, Pa.

Vice-President—W. E. Saunders, London, Ont.

Secretary—Benj. T. Gault, Glenn Ellyn, Ill.

Treasurer—W. F. Henninger, New Bremen, Ohio.

Members of the Executive Council—Lynds Jones, Oberlin, O.; H. C. Oberholser, Washington, D. C.; B. H. Swales, Grosse Isle, Mich.

EDITORIAL.

The American Ornithologists' Union held its 27th Congress in the lecture room of the American Museum of Natural History, New York City, December 6 to 9. There were about 120 members present, besides many visitors to the public meetings. One Fellow, four Members, and upwards of 125 Associate members were added to the membership. Papers were read during the mornings and afternoons of the 7th and 8th, and during the morning of the 9th. The 28th stated Congress will be held in Washington, D. C., in 1910. Members who do not attend these annual meetings miss more than they are aware. There should be many times larger attendance, both for the good of the individuals and for the cause of ornithology. The personal acquaintance which such an opportunity gives is both a stimulus to more efficient work and an aid to better understanding between bird students.

We take the liberty of publishing the following personal letter which relates to the just distributed sumptuous and fully annotated Catalogue of Canadian Birds, by John and James R. Macoun, because this letter will more clearly indicate the scope and purpose of the Catalogue than editorial comment could. We also earnestly hope that the request of the author for more information for the

proposed Addendum will be liberally complied with by all persons who are in a position to give information:

Dear Sir:

By to-day's mail an advance copy of the new edition of the Catalogue of Canadian Birds goes to you. You will note that the Catalogue is in part a reprint of the first edition, and its chief value is in the very great geographic extensions that are given to the Canadian birds. While I do not believe that everything known about Canadian birds is included in the Catalogue, there has been nothing published that we have not availed ourselves of. Early next autumn we will publish an addendum to the Catalogue, which will include all additions and corrections that are sent to us, and I hope that through the Wilson Bulletin you will help us in making the addendum as complete as possible.

Yours truly,

JOHN MACOUN, *Naturalist.*

FIELD NOTES.

CHILLICOTHE, MO., Nov. 11.—One of the greatest freaks from lightning in this vicinity this season occurred at the home of Jacob Bruner, a farmer living south of here, last night.

During a severe electrical storm a flock of ducks flew over the Bruner home, when a flash of lightning killed the entire flock, numbering 56. The birds fell in Mr. Bruner's yard. He is now serving ducks to all his neighbors.—Clipping sent by Otto Widmann.

A LATE SOLITARY SANDPIPER IN NEW JERSEY.—The Solitary Sandpiper (*Helodromas solitarius*) is of rare occurrence on the seacoast of New Jersey, as is generally known, for it is a bird of inland fresh water ponds and streams. Imagine my surprise, then, when I stumbled upon one "at home" on a small salt water pond at Ocean View, Cape May County, on June 9, 1907. A second surprise is the lateness of the bird's occurrence here, for I have never before seen it later than May 27, and the latest record in the Delaware Valley is May 30. My first impression was that it was a wounded individual, left behind in the migration, but as I approached, it took wing, rather reluctantly, however, and flew away, returning when I had departed. In this way it was flushed three times, but always returning, after a high circling, after I had walked away. It seemed loath to leave the pond and I did not make a fourth attempt to drive it away. The pond was at the edge of the meadow, but one side of it had a sandy shore, which was frequented by the bird, and was about two and a half miles from the ocean, along the seacoast, with meadow land between it and the sea.

RICHARD F. MILLER, *Harrowgate, Philadelphia, Pa.*

BARN OWL IN DEFIANCE COUNTY, O.—The 29th of September there was brought to my office for identification a beautiful specimen of the Barn Owl (*Strix pratincola* Bonap).

It was caught a few miles east of this city, and is the first owl of this species reported in this region. It was seen by many people, and all were much interested in it as a new bird here.

CHAS. SLOCUM, *Defiance, O.*

EARLY WINTER CONDITIONS IN NORTHERN OHIO.—A cold storm with little snow but much rain, beginning October 21 and lasting four days, resulted in establishing winter conditions in this section. On October 17, during an all-day outing along the lake shore in the vicinity of Cedar Point, easterly, a list of sixty species was recorded, thirty-six of them being transient birds. Among this thirty-six were such usually early migrants as Vesper, Chipping, Field, White-crowned, White-throated, and Swamp Sparrows; Rose-breasted Grosbeak, Sora, Long-billed and Short-billed Marsh Wrens, Blue-headed and Warbling Vireos; Hermit Thrush, Yellow-billed Cuckoo, Spotted Sandpiper, Catbird, Tree Swallow; Black-throated Blue, Black-throated Green, and Cape May Warblers; Redstart, Least Bittern, and others which tarry longer sometimes. The place where these birds were found was peculiarly favorable for weathering such storms as we had experienced up to that time, for cover was good, and food was abundant. Often winter conditions are delayed until late in November, but there is seldom such a list of birds immediately preceding the change. Instead of a gradual lessening of numbers it was a case of sudden disappearnce between two days. LYNDS JONES, *Oberlin, Ohio.*

THE PROTHONOTARY WARBLER AT THE LEWISTON RESERVOIR.—The Lewiston Reservoir is located in Logan County, Ohio, about fifteen miles northwest of Bellefontaine. On the statute books of the State it is known as Indian Lake, but really only a small part of the Lewiston Reservoir is known to hunters and fishermen as Indian Lake. Like the Loramie Reservoir and the St. Mary's or Grand Reservoir, it is located near the summit level of the State, and also like them was constructed as a feeder for the Miami and Erie Canal. The Lewiston Reservoir is the second largest artificial body of water in the State, — the St. Mary's Reservoir being the largest. For the sportsmen of central and western Ohio it has great attraction on account of its fish and water-fowl in season. To the bird-student it is equally attractive because it furnishes ideal nesting places for water-loving and marsh-loving birds, such as Long-billed Marsh Wrens, Red-winged Blackbirds, Florida Gallinules, King Rails, Virginia Rails, Sora Rails, etc., besides furnishing a spring

and fall stopping place for many migrants that nest farther north, such as ducks, coots, loons, snipes, sandpipers, etc.

In looking over "The Birds of Ohio," by Lynds Jones, I noticed the statement that the Prothonotary Warbler (*Protonotaria citrea* Bodd.) "was not found at Lewiston reservoir in spite of the fact that breeding places seemed plentiful." Just when the trip here referred to was made is not stated, but it was certainly made before the publication of the Catalogue in 1903. He further states on the authority of Dr. Wheaton that it is a summer resident in the vicinity of the St. Mary's or Grand Reservoir, and that he himself has found it fairly common at the Licking Reservoir.

W. L. Dawson, in his "The Birds of Ohio," gives its range in Ohio, as a "summer resident in restricted localities, such as the Grand and Licking Reservoirs, and the major streams draining into the Ohio." But he does not mention the Lewiston Reservoir.

During the week from July 30 to August 4, 1906, I found it to be very common in the willows overhanging the edges of the Lewiston Reservoir, especially near Russell Point. Although this was after the nesting season, I think that the Prothonotary Warbler very probably nests there.

Professor Jones states in his Catalogue that there is "some indirect evidence that this species is extending its range northward where conditions are favorable." This may account for its presence at the Lewiston Reservoir in 1906, and its absence at the time referred to above.—G. Clyde Fisher, *DeFuniak Springs, Florida.*

BOOK REVIEWS.

The Birds of New Jersey. By Witmer Stone. Annual Report of the New Jersey State Museum, 1908 [1909]. Our sister state on the other side of the Delaware has evidently profited by our mistake. Instead of an immensely costly compilation bristling with unauthenticated statements and borrowed facts, illuminated by a number of colored plates to fool and flatter the Pennsylvania farmer; we have here a modest, readable text-book and treatise on the birds of New Jersey, designed particularly for the public schools and libraries, containing well authenticated facts and records, by a recognized authority, and supplemented by eighty-four uncolored plates of birds selected from the best of Wilson, Audubon, Fuertes, and Horsfall.

The chapters on the destruction and protection of our birds, and distribution and migration, are followed by a key for the identification of New Jersey birds and the enumeration, brief description, remarks on the abundance, etc., of 356 species and subspecies. The

nomenclature is that recently adopted by the A. O. U. and almost the first to appear in this form.

We have here almost the first intimation of the entire reduction of so many New Jersey species from common breeders to rare stragglers. The Gull-billed, Forster's, Roseate and Least Tern, Black Skimmer, American Egret, Snowy and Little Blue Herons, Avocet, Black-necked Stilt, Willet, Piping and Wilson's Plover, Oystercatcher, and a Pileated Woodpecker, on the coast principally, and the Summer Tanager and Mockingbird in the interior. The immense colonies which once excited the wonder of all beholders are now no more, gone without record, almost without comment save a few scattered notes giving the result of oological collecting trips. Plume hunters, summer shooting by reckless visitors, and eggers, have indeed drawn heavily upon the attractions and resources of a state whose shores are the summer play ground of neighboring towns and cities.

Mr. Stone also announces a great decrease in the number of breeding Laughing Gulls, Common Tern, Black Duck, Wood Duck, Great Blue Heron, Woodcock, and Bartraman Plover, and Osprey. There are men, now living, who could tell us a great deal about the wholesale destruction of New Jersey birds, if they would.

In the final sum up, Mr. Stone eliminates seventeen species of doubtful occurrence, leaving 41 resident, 96 summer resident, 41 winter resident, 75 transient, 61 stragglers—over one-half from the south, and 5 probably extinct,—339 in all. A bibliography of New Jersey ornithological papers follows and is practically complete. I append four rather unimportant papers which appear to have been overlooked:

Brownell, W. C., The Land I Left Behind Me.—*Oologist's Exchange*, Vol. I, No. 4, April, 1888, [unpaged[.

Shick, C. S., Nesting of the Sharp-tailed and Seaside Finches [in Cape May Co., N. J.]—*Hawkeye Ornithologist and Oologist*, Vol. I, No. 7, July, 1888, pp. 102-103.

B[owers], L[ionel] F., Sharp-tailed and Seaside Sparrows. Found breeding on Seven-mile [Peck's] Beach, [N. J.]—*Nidiologist*, Vol. II, No. 2, Oct. 1894, p. 27.

Wolf, Maj. A. G., Some Nocturnal Migrants, List of Birds Striking Lantern of Abescom Light, Atlantic City, N. J.—*Birds of Pennsylvania*, 1890, pp. 400-401. F. L. B.

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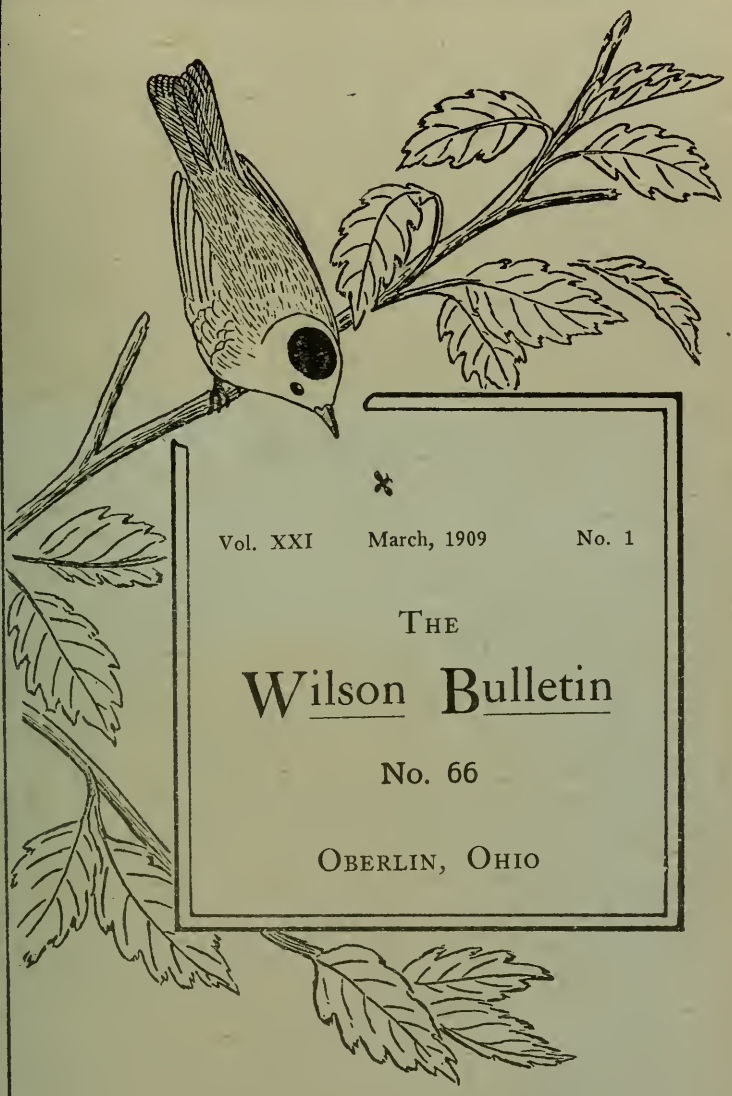

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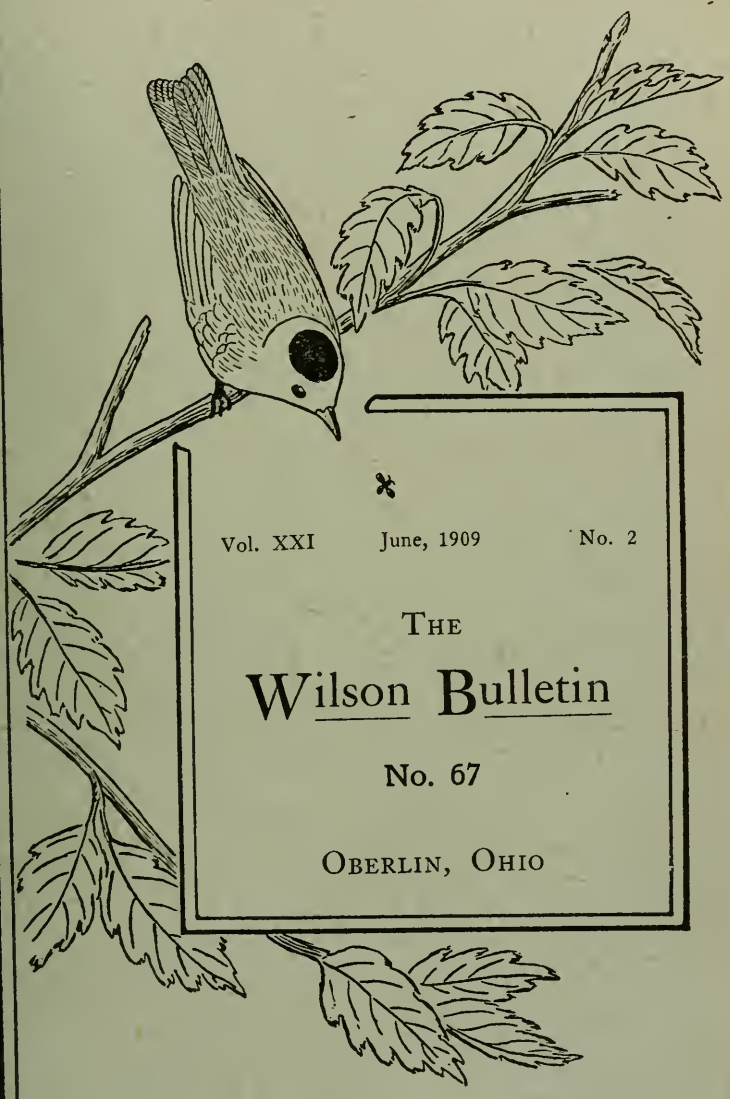

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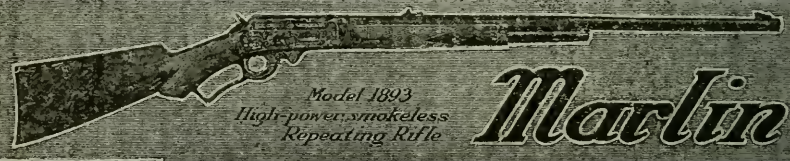

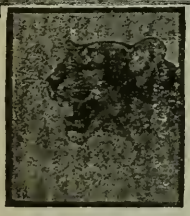

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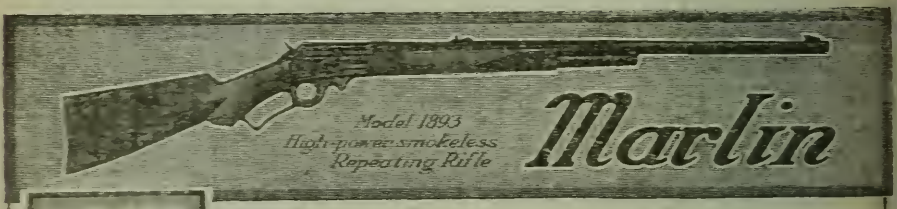

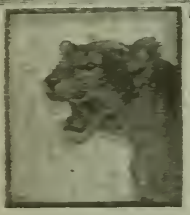

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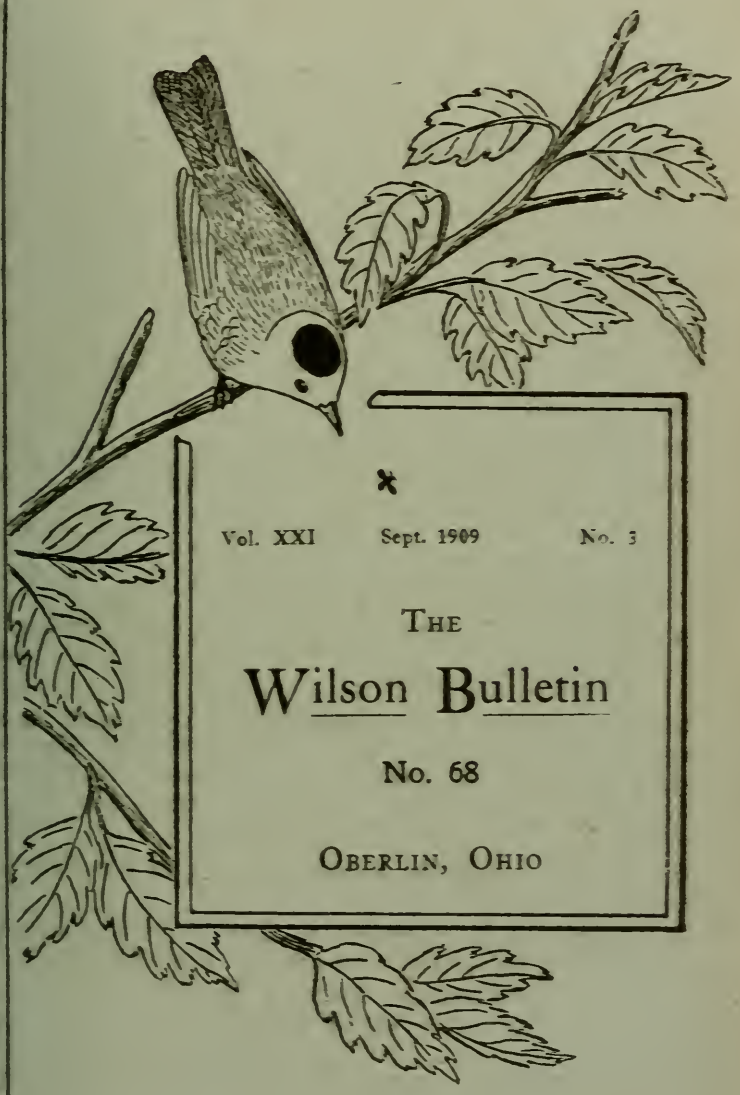

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Oberlin, Ohio

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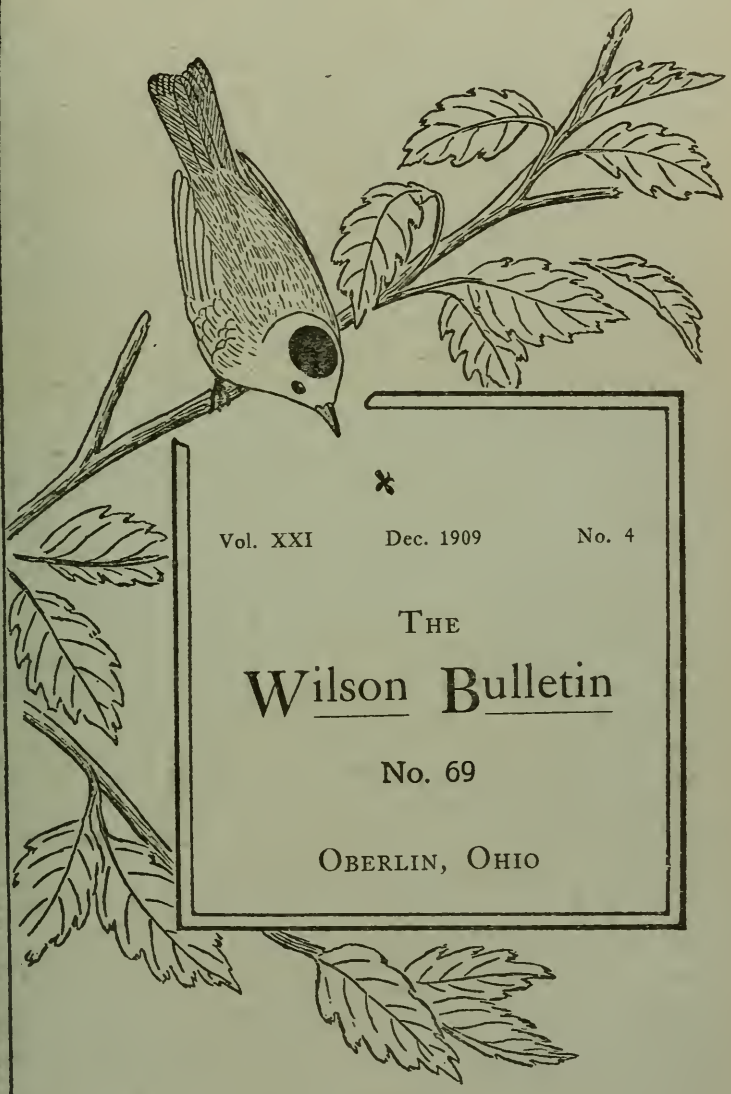

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